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AN ESSAY ON FEVERS,

And their Various Kinds,

As depending on

Different Constitutions of the BLOOD:

WITH

DISSERTATIONS ON SLOW NERVOUS FEVERS; ON PUTRID, PESTILENTIAL, SPOTTED FEVERS; ON THE SMALL-POX; AND ON PLEURISIES *and* PERIPNEUMONIES.

The SECOND EDITION.

By JOHN HUXHAM, *M.D. F.R.S.*

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MDCCL.

BIBLIOTHECA
REGIA
MONACENSIS

PREFACE.

ABOUT ten Years ago I publiſhed a ſmall Volume of Obſervations on the Air, and epidemic Diſeaſes, from the Year 1727 to the End of 1737; and I have now finiſhed another Volume of like Obſervations, from 1738 to 1747 incluſive: In the latter, I think, I have been ſomewhat more careful and exact in the Hiſtory of the reigning Diſeaſes, and the Method of Cure.— However, as it would have been too great an Interruption to the Series of the Obſervations, to have entered into particular Diſquiſitions on the Nature and Cure of the ſeveral Diſeaſes, there curſorily mentioned, I have reſerved them for the following Eſſays; in which my Way of thinking and acting as to Fevers in general, and thoſe ſpecified in particular, will more fully appear: And this, I hope, will be of ſome Service to the younger Practitioners, as theſe Eſſays are the Reſult of a pretty large and long Experience, and the Obſervations were made

with the utmoſt Care and Diligence. — Whatever be the Event, I flatter myſelf they will be received as the honeſt Endeavours of a ſincere Well-wiſher, not only to his Profeſſion, but to all Mankind.

In the following Eſſays I have frequently referred to both the Volumes of Obſervations, and in the latter Volume often referred to theſe Eſſays; ſo that, by theſe Means, I have endeavoured mutually to illuſtrate both the one and the others.

Though I have all along ſtrictly kept cloſe to Facts and repeated Experience, (and where I have reaſoned from theſe, I have aimed at the juſteſt Analogy); yet I have ſupported my Doctrine and Practice very frequently by the Authority of the Ancients, particularly *Hippocrates*.—And this I have the rather done, as well knowing of what great Uſe they were to me in the Courſe of my Studies and Practice; and alſo with a View of recommending their frequent Peruſal to young Phyſicians.—But although my Advice perhaps, in this Matter, may have no great Weight; yet I hope, the concurrent Judgment of the greateſt Maſters in our Profeſſion will be duly regarded.

I will

I will not take upon me to ſay, a Perſon cannot be a good Phyſician without conſulting that great Oracle of Phyſic, and reading the Ancients; but this let me ſay, He will make a much better Phyſician for ſo doing: And I believe, few, if any, ever made any conſiderable Figure in the Profeſſion, who had not ſtudied them.— Indeed *Hippocrates* hath been accounted the very Father of Phyſic, and the Plan, which he laid down, as the *Baſis* of all true and ſolid Medicine: And it hath been conſtantly held in the higheſt Veneration by all his Succeſſors, at leaſt by all thoſe, who were capable Judges of the Matter.— The Reaſon of which is evidently this, that he ſtudied Nature with the greateſt Care and Aſſiduity, and copied and followed her too with the greateſt Exactneſs; ſo that his Obſervations have been found perfectly juſt through all ſucceeding Ages.

It is not in Phyſic only, but in ſeveral other Arts, that the Study of the Ancients is of the utmoſt Advantage, and is univerſally acknowledged to be ſo.—Whoever would excel in Poetry, Sculpture, Statuary, *&c.* always conſult the Works of the ancient Maſters in theſe reſpective Arts, as the moſt perfect Models, and moſt juſt Copiers of Nature; and it

is not in Poetry only, but in Phyſic alſo, that *Horace*'s Advice is good:

——— ——— *Vos exemplaria Græca*
Nocturna verſate manu, verſate diurna.

In Truth the Ancients were not only Men of vaſt Genius, but of the greateſt Diligence and unwearied Application (the *Roman* Hiſtorians have always in the Character of their great Men *incredibilis induſtria, diligentia ſingularis)*; who kept their Eyes ſteadily fixed on what they would deſcribe, and gave us the true Picture and naked Truth of Things; which is infinitely more beautiful than all the affected Daubing and Flouriſhes of a modern luxuriant Imagination: The more juſt the Deſcription, always the more excellent: What is a Portrait good for, that is not like the Original? — As Nature herſelf, the more accurately viewed, is the more admired; ſo he that gives us the trueſt Copy of her Face, will ever be deemed the greateſt Maſter. In this *Hippocrates* ſo greatly excelled, that he had the united Applauſe of the Nations around him, nay they even paid him divine Honours; for by this he was enabled to heal, as well as to know and deſcribe Diſeaſes. — I am fully perſuaded, had his Method been ſtrictly followed by ſucceeding Phyſicians, the Art of Healing would have

long

long ere this Time been carried to a much greater Highth than it is at preſent: Which hath by no Means kept Pace with the many and great Diſcoveries, that have been made ſince (eſpecially within this and the laſt Century) in Natural Philoſophy, Anatomy, the *Materia medica*, and Chemiſtry.—Indeed as Man is by Nature mortal, it is impoſſible that Art can make him immortal: but ſurely it is very poſſible it may ſupply ſomething more exact and determinate than we have at preſent.

From the Days of *Galen*, and indeed long before, vain *Hypotheſis*, the Love of Novelty, the Faſhion and Faction of Phyſic too often led its Profeſſors devious, and attached them to Error; and, it is too well known, the ſame Misfortunes ſtill attend us. However it muſt be acknowledged, that all the ſober, regular, judicious Practice hath been always conſonant to the *Hippocratic* Doctrine; as hath been ſhewn at large by the learned Dr. *Barker* in his late Eſſay, to which I refer the Reader, and to Dr. *Glaſs*'s ingenious Commentaries for a Scheme of the Practice of *Hippocrates*.

I am ſo far from blaming a rational Theory in Phyſic, that I think it the *Baſis* of all juſt and regular Practice; but then it ſhould be,

as *Hippocrates* adviſeth, Κατὰ φύσιν θεωρέων *.— If ever Phyſic is to be improved, it muſt be in ſuch a Manner, and not by *chimerical Hypotheſes*, nor raſh unwarrantable Quackery.— A diligent Study of the Ancients therefore, and a thorough Acquaintance with the Laws of the animal Œconomy, as rationally delivered by ſome of the Moderns, ſhould be the Buſineſs of every Phyſician. — But ſome are more expeditiouſly popped into the World. — To be the Favourite of a great Man, (or, what is rather better, of a great Woman) to be the Tool or Fool of a Party with a ſplendid Equipage, and no ſmall ſhare of Aſſurance; theſe are Qualifications, which finiſh the Doctor, to the Reproach of the Profeſſion, and the Danger of the Society.

Celſus hath been juſtly ſtiled the *Latin Hippocrates*, not only as having tranſlated an infinite Number of Paſſages from the divine Old Man into his Works, but alſo as having generally followed his Method and Medicine. — His *Latinity* is moſt elegant, his Phyſic and Surgery ſurpriſingly juſt.

* *De Vict. acut. Sect.* xlvi. *Edit. Lindeni.*

No one hath more closely followed *Hippocrates* than * *Aretæus Cappadox*, so far as to have affected his very Words and Stile: — His Descriptions of Diseases are admirable, and his Method of Cure greatly judicious.

Galen

* It is pretty surprising that none should take Notice of *Aretæus* before *Aëtius Amidenus*, in the fifth Century; (he is indeed named in the *Euporista* attributed to *Dioscorides*, but few think that Piece to be the genuine Work of that Author): Neither *Galen*, *Cælius Aurelian*, nor *Oribasius* mention him; though so particular in enumerating all the Physicians of Note, antecedent to, or cotemporary with them. —And yet *Aretæus* seems to have been a very considerable Practitioner, and a Man of great Learning and Judgment:— He affects a very singular Stile, using many obsolete Words, *Homeric* and *Hippocratic Phrases*, and the *Ionic Dialect*; which, at the Time he wrote in, was almost intirely disused: For, notwithstanding the Conceit of *Vossius*, he undoubtedly did not write till after the Time of *Nero*.——All this one would think should have made him remarkable; especially if he practised in, or near *Rome*; which is not improbable, as he advises *Roman* Wines to the Sick; particularly the *Falernian*, *Surrentine*, *Signine*, and those of *Fundi*.

But further, *Galen* and *Aëtius* quote from *Archigenes* several Passages, which are exactly the same, as to Sense, Doctrine, Method of Cure, and Manner of Expression, with what we find in *Aretæus*; only the latter gives them the *Ionic* Turn. —— They both coincide in recommending some particular Medicines, which are scarce to be met with in any others, particularly the external Use of *Cantharides*;

which

Galen ſhould be read by all that would conſult the moſt laboured and exact *Commentator* upon *Hippocrates:* Beſides he abounds with an

which I think is not to be found in any preceding Author, except *Celſus*.

Did *Archigenes* then borrow from *Aretæus*, or the latter from the former?

It is certain, *Archigenes* practiſed at *Rome* with a very great Reputation, was a very celebrated Phyſician and Author, and as ſuch is referred to by *Juvenal*, *Galen*, *Cælius*, *Oribaſius*, *Aëtius*, &c.— He is ſtrictly criticiſed by *Galen*, ſometimes cenſured, ſometimes commended, but never reckoned a mere Compiler. — *Aretæus* on the contrary is mentioned by none but *Aëtius* and *Paulus Ægineta*; nay, which is not a little to be wondered at, he is not ſo much as found in *Photius*'s *Bibliotheca*. —— This is really ſtrange, and not eaſily accounted for, and would incline one to think that *Aretæus* borrowed from *Archigenes*; or rather tranſcribed and new-modelled him, giving him the *Hippocratic Diction* and *Ionic Dialect*. — Poſſibly *Arctæus* might do by *Archigenes* ſomething like what *Cælius Aurelian*, not long after, did by *Soranus:* But, if ſo, he hath vaſtly much better *græciſed Archigenes*, than *Cælius* hath *latiniſed* (as he calls it) *Soranus*. —— Upon this Suppoſition we need not wonder at finding the *Roman Wines* recommended in *Aretæus*, though he might practiſe and write in *Cappadocia*, or any where elſe, at the greateſt Diſtance from *Rome*. — But theſe are my poor Conjectures. — Be the Matter as it will, in *Aretæus* we have a moſt valuable Work, a moſt accurate Deſcription of Diſeaſes, and in general a very proper and judicious Method of Cure; and it is greatly to be lamented, that the Work comes ſo maimed to us.

immenſe

immenſe Number of fine and uſeful Obſervations in all Parts of Phyſic, and was the firſt that gave us any particular Account of the Pulſes, their Difference and Signification: It is Pity there is ſo much of the *Peripatetic* and *Periphraſtic* in him. The World would probably receive a judicious Abridgment of his Works with no ſmall Satisfaction.

Had *Cælius Aurelianus* written in the Stile of *Celſus*, he would have been an invaluable Author.—As it is, we are vaſtly indebted to him, for the whole Doctrine of the *Methodiſts*, particularly of the judicious *Soranus*; as well as for the Sentiments of the Ancients on very many Diſorders, which otherwiſe would have been wholly loſt to us.—Notwithſtanding his *Barbariſms*, his Deſcription of Diſeaſes is moſt juſt and admirable.

One of the Ancients more I would particularly recommend, and that is *Alexander of Trallis*, who in moſt Things indeed follows *Hippocrates* and *Galen*, and generally gives them the Epithet of θειότατοι: But yet he hath an infinite Number of uſeful Remarks of his own, abounds with many excellent Medicines, and writes in a very judicious and regular Manner.

In

In the following Eſſays I have not ſo much aimed at a particular and methodical Diſſertation on the Diſeaſes treated of, as to give a few Hints and neceſſary Obſervations as to their Nature and Cure; for this would have made the Work voluminous, which I fear is even now not a little tedious.

I have given few or no *Formulæ*, or *Preſcriptions*; for, as *Hippocrates* ſays, he that knows the Diſeaſe, knows what is proper to cure it.—— When a Phyſician knows whether Stimulants or Anodynes, Relaxants or Reſtringents, Attenuants or Incraſſants are indicated; he can be at no great loſs how to ſerve himſelf of proper Drugs, out of the vaſt *Materia medica*, which we at preſent abound with. —— He ſhould ſelect a few of the moſt effectual for his Uſe of each Sort, and ſtick to them, and not run into the immenſe *Farrago*, which ſome are ſo fond of: By ſo doing he will ſoon be acquainted with their real Virtues and Effects, and readily diſtinguiſh between the Symptoms of the Diſeaſe, and thoſe cauſed by the Medicines; which is a Thing many Times of no ſmall Importance. —— I have really ſeen in private Practice, and ſome publick Writings, ſuch a jumble of Things thrown together in one Preſcription, that it would have puzzled

Apollo

Apollo himſelf to know what it was deſigned for: —Not but that there are frequently ſuch *Complications* (and *Contra-indications* too ſometimes) in Diſeaſes, as makes ſome Degree of *Combination* and *Contraſt* in a Medicine neceſſary.

But a *Formula*, or *Recipe* as it is called, can be of very little Service. —— Twenty or thirty Grains of Rhubarb ſhall purge ſome as much, as twice the Quantity of Jalap will others: — One Grain of the *Theban* Extract, or twenty Drops of the Tincture, will doze one as much, a triple the Doſe will another.—— Beſides the Conſtitution and Manner of living of the Patient muſt be conſidered, in Preſcription, as well as the Diſeaſe: A ſober temperate Perſon, or one that lives chiefly on Milk, Vegetables, and Water, will by no Means bear ſuch warm Medicines, compound Waters and Spirits, as may be quite proper for thoſe, who have dealt largely in Ragouts and Ratafia. ——But this is obvious, and ſo is this Deduction, that we ſhould always begin with ſmall, or very moderate Doſes of all Kinds; and that not only the Phyſic, but the Drink and Diet of the Sick alſo ſhould be prudently regulated: For ſurely what we uſe by Ounces and Pounds cannot but conſiderably affect us, as well as what we take

by

by Grains and Scruples. *Hippocrates* and the Ancients were very careful in this particular, and very exact in preſcribing a *Regimen*: And in this Reſpect likewiſe young Phyſicians would do well to conſult them. — As for thoſe, who will neither read nor reaſon, but practiſe by Rote, and preſcribe at a Venture; I muſt ſeriouſly adviſe them, at leaſt, to peruſe the ſixth Commandment.

CON-

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ERRATUM.

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AN

AN ESSAY ON FEVERS,

And their various KINDS.

CHAP. I.

Of the most simple, more complex, and inflammatory Fevers.

THE great *Boerhaave*, in his admirable *Aphorisms de cognoscendis & curandis Morbis*, begins with the Diseases of a simple Fibre; and indeed the only Method, to attain to any considerable Knowledge in any Science, is to begin from the very Elements of that Science; for whatsoever is most simple is more easily understood, than that which is more complex: Method and Perspicuity are the natural Consequence of such a Procedure.

Thus, in examining into the Nature of Fevers, it ſeems moſt proper to conſider the moſt ſimple of the Kind firſt.—Let us ſuppoſe then a Perſon, both as to his *Solids* and *Fluids*, in perfect Health, engaged in violent Exerciſe, as by Running, or the like: This, if long continued, will greatly encreaſe the Velocity, Friction, and Heat of the Blood, which, when conſiderably above natural, are called a *febrile State*.—Here is then the moſt ſimple Fever, ariſing from nothing but the encreaſed Action of the *Solids* on the *Fluids*, and the Re-action of the latter on the former; which ſoon ſubſides on the Ceſſation of the Motion, or violent Exerciſe.

Let us next ſuppoſe another perfectly healthy Perſon, expoſed to cold moiſt Air, by which his Perſpiration may be conſiderably ſuppreſſed; hence will follow an encreaſed Quantity of Humors, and an encreaſed Effort of Nature to throw them off, and remove the Obſtructions: Whence a feveriſh Habit will follow, which however frequently ſoon wears off by the kindly relaxing Warmth of a Bed, or the like, aſſiſting Nature's Endeavours.

A third, of an equally good Conſtitution, drinks too largely of Wine, or other ſpirituous Liquors; which, encreaſing the Quantity of Humors, and alſo the Motion of the Blood by its ſtimulating Quality, produces a Fever, which

which in like Manner ſoon goes off, by Abſtinence, *&c.*

In any one of theſe Caſes, only a ſimple *Ephemera*, or ſhort Fever, is generated — But if, in the firſt Caſe, the Blood was ſo violently agitated and rarified, as that, by its great *Impetus*, and Dilatation of the Veſſels, ſome of the red Globules were forced into the *ſerous Arteries*; an inflammatory Obſtruction would be formed: As we ſee even externally, when the red Globules are forced into the Veſſels of the *Tunica conjunctiva* of the Eye, where only *Lymph* or *Serum* ſhould paſs. And if withal the Velocity and Heat of the Blood ſhould be ſo great, as to diſſipate much of its thinneſt Part; the Remainder would be left groſs and thick, and leſs fit for a free Circulation through the *Minima Vaſcula*; and the very Serum would be turned into a Kind of Jelly. — For a Heat, not much greater than the Heat in a common Fever, will coagulate the Serum of the Blood; the Conſiſtence of which Jelly will be in Proportion to the Violence and Duration of the Heat. — Here then, I ſay, by the mere ſimple accelerated Motion of the Blood, an inflammatory Fever would be produced, of much longer Duration, and more dangerous Conſequence. —If the Inflammation ſeizes the Lungs, a Peripneumony; if the *Pleura*, a Pleuriſy; if the Brain, or its Mem-

branes, a Phrenzy is generated. — And theſe Diſorders prove much more ſevere, where, antecedent to this violent Motion of the Blood, there was a great Strength of the Fibres, and a great Denſity and Quantity of Blood.

If in the ſecond Caſe, the Obſtruction of the Pores and Perſpiration be very conſiderable, the Fibres ſtrong and tenſe, the Blood much in Quantity and very thick, Fevers of the ſame Kind enſue.

If in the third Caſe, to tenſe Fibres and much viſcid denſe Blood, a great Quantity of Wine, or other ſtimulating Liquors, be added; both the Quantity and Velocity of the Blood may be ſo greatly encreaſed, as to bring on a dangerous acute Fever, which too often follows drunken Debauches.

Now as any one of the above Cauſes may ſingly produce a Fever; on the Concurrence of two or all three, a more violent one, *cæteris paribus*, will ariſe. Thus from cooling too ſuddenly after vehement Exerciſe, as by expoſing the Body to very cold Air, and ſtopping the Sweat and Perſpiration at once, a very dangerous inflammatory Fever will come on; which will be much more violent, if the Blood had been heated and encreaſed by a large Quantity of any ſpirituous Drink immediately before. — By the bye, nothing ſo effectually carries off the ill Conſequences of a drunken Bout, as keeping

ing warm, and lying long in Bed *to ſoak it out*, as they call it.

Now conſidering the proximate Cauſes of theſe Fevers, the Method of Cure is very obvious, which is by leſſening the Velocity, Quantity, and Acrimony of the Blood as ſoon as poſſible. —But nothing ſo ſoon abates the too rapid Motion, Quantity, and Heat of the Blood as Bleeding; for by this Means the red Globules of the Blood and *Vis motrix* are leſſened — By Bleeding *ad Deliquium*, as *Galen*, and ſome of the ancient Phyſicians, did in inflammatory Fevers, the Blood's Motion almoſt quite ceaſes for a ſhort Time.

Bleeding therefore is certainly the firſt *Intention* in the Cure of Fevers, that ariſe from too great a Quantity, and too rapid a Motion of the Blood; and the longer it is neglected, the more viſcid and acrimonious is the Blood rendered, by diſſipating its more thin Part, condenſing the red Globules, and heating the Serum to ſuch a Degree, as to turn it into a Kind of Jelly. —And, by exalting the animal Salts and Oils to a greater and greater Degree of Acrimony (which is always in Proportion to the Intenſity and Duration of the Heat) the whole Maſs grows putrid at length, and unfit for animal Uſes. —Beſides, whatever Obſtructions may be formed either in the extreme Branches of the *ſanguine*, or Beginings of the

Of ſimple, complex, and

ſerous Arteries, are apt to be more and more radicated by the too violent Motion of the Blood.—So that the Neglect of Bleeding, at the Begining of any acute Diſeaſe, is very often never to be compenſated in the ſubſequent *Stadia* of the Fever; when the *Impaction* of the obſtructing Matter is ſo far advanced, and the Thickneſs and Viſcidity of the Humors ſo great, as to elude the Force of all Manner of Attenuants and Diluents.

In general, the Quantity of the Blood to be taken away is to be determined by the Strength of the Patient and his Pulſe; by the Intenſeneſs of his Fever, Heat, and the Vehemence of his Symptoms, as to Pain, Difficulty of Breathing, *&c.*—Nay the very *Bulk* of the Perſon is to be conſidered alſo; for certainly, *cæteris paribus*, a big ſtrong Man can bear to loſe more Blood than a ſmall ſtrong Man.—'Tis ſafer however to take away too little, than too much at a Time, as the Operation may be ſo ſoon and ſo eaſily repeated, and as often as may be indicated.—If the Pain, Heat, Difficulty of Breathing, *&c.* abate not after Bleeding, it ſhews the Neceſſity of drawing more Blood.

And here let me caution the younger Practitioner not to be deceived by an *oppreſſed Pulſe*, which is often the Conſequence of too great a Fulneſs of Blood; this is manifeſt, by the Vibrations of the Artery becoming more free and

ſtrong

ſtrong after Bleeding in ſuch Caſes, as daily Experience evinces.—If he is doubtful in the Caſe, let him apply his Finger to the Pulſe in the other Arm, while the Patient is bleeding; and, if he finds it flag conſiderably, flutter, or intermit, it is Time to deſiſt; if it beats ſtronger and more open, he may proceed with Safety and Succeſs.—There are indeed ſome very apt to faint on Bleeding from a natural Laxity of the Fibres, and Want of that due Elaſticity, which ſhould contract the Veſſels in Proportion to the Evacuation.—Theſe ſhould be bled in a *recumbent Poſture*, and the Orifice may be frequently ſtopped for a ſhort Time, whereby Fainting will be in a great Meaſure prevented.—Theſe Perſons, though they have too lax Fibres and Veſſels, are often plethoric, and of Courſe require Bleeding; eſpecially where the Load of the Humors begins to overbear the Power of the Heart, which is the common Caſe in an oppreſſed Pulſe.

Bleeding not only leſſens the Quantity and Velocity of the Blood, but it alſo makes Room for the Entrance of diluting Liquors into it.—Proper Dilution is abſolutely neceſſary in all Fevers, eſpecially in the ardent and inflammatory; for in theſe the Blood is rendered too thick and viſcid by the Diſſipation of the thinneſt Parts of it, and the remaining Serum is more and more incraſſated, or jellied, by the

great and continued Heat: So that cooling, thin, diluting Liquors are neceſſary to ſupply the continual Waſte of the Lymph and Serum, and to keep the whole Maſs in a due Degree of Fluxility.—Theſe, in general, ſhould be of the aceſcent, and ſomewhat alſo of the ſaponaceous Kind. Of the former, as they are very cooling, and prevent the Encreaſe of the alcaleſcent Acrimony of the Humors, which would otherwiſe be continually advancing by the great Friction and Heat of the Blood: (for the animal Salts are greatly exalted, and made more corroſive, by the feveriſh Heat, and the animal Oils are by the ſame Cauſe turned rancid at length, and highly acrid: The ſweeteſt Oils, or Butter, by great Heat, become vaſtly cauſtic.)—Of the latter, as they not only diſſolve the *Lentor* better, but alſo keep the Humors more properly mixed, by uniting the Salts, Sulphurs, and Waters more intimately with the Blood. I have often known pure Water, drank plentifully in acute Fevers, rendered almoſt as pale and inſipid as when drank; (which, by the Way, is a very dangerous Symptom.) Water, as Water, will not unite with oily Liquors; ſo that when the Serum of the Blood hath been jellied by Heat, and its oily Part exalted, and encreaſed, by melting down the Fat in the *Membrana adipoſa*, &c. it is no Wonder that plain Water neither mixes well with the

Blood,

Blood, nor proves an effectual Diluent. Hence therefore follows the Neceſſity of mixing ſomething ſaponaceous with it, as Sugar, Syrup, Jellies, or *Rob* of Fruits, as Currants, Raſberries, Cherries, or the like.—Juice of Lemons, or Oranges, by mixing a little Sugar with it, and a proper Quantity of Water, becomes a very grateful Drink, and anſwers the Intention of a Diluent both acid and ſaponaceous.

Beſides the Uſe of Diluents as to the Humors of the Body, no ſmall Advantage will ariſe from them as to the Fibres and Veſſels, which they tend to relax; eſpecially when they are drank ſomewhat warm.—Now too great a Tenſion of the Fibres, *&c.* is naturally concomitant to great Velocity, Heat, and Denſity of the Blood, which always attend, or rather are the very Eſſence of an inflammatory Fever.—Every one knows what tepid Bathing will do externally; and it may be eaſily ſuppoſed that ſubtepid Diluters internally will have an analogous Effect.—In all theſe Views, the Blood is rendered leſs rapid, leſs viſcid, and, in Conſequence, leſs hot; which are Matters of the higheſt Import in the Cure of ardent and inflammatory Fevers. It may be added, that obſtructed Capillaries, and obſtructed Perſpiration, are by ſuch Means moſt ſafely and effectually remedied, the Humors being rendered *fluxile*, and the *minima Vaſcula permeable*. For it is to be noted,

noted, that where gentle and general Sweats follow plentiful Dilution, with Liquors of a cooling relaxing Nature, they are commonly critical, and ſoon carry off the Fever. I ſay, gentle Sweats; for profuſe ones ſhould never be encouraged in the Begining of Fevers, as they drain off the thinneſt Part of the Blood, and leave the Remainder too thick, viſcid, and apt to obſtruct.—In a particular Manner I have often obſerved them of the higheſt ill Conſequence in the Begining of Pleuriſies, Peripneumonies, and the Small-Pox.—And for the ſame Reaſon, profuſe Diſcharges by Stool, and thin Urine, are hurtful.

But the moſt pernicious Method of raiſing Sweats in the Begining of Fevers, is by giving hot volatile alexipharmac Medicines, ſtoving up the Patients in hot Air, and ſmothering them almoſt with Loads of Bed-cloaths; for theſe encreaſe the Motion and Heat of the Blood already too violent, and add Fewel to the Fire: Nay, very often, they are ſo far from raiſing Sweat, that they prevent it, by hurrying on the Blood with too great Rapidity to give off any natural and regular Secretions.—It is well known, the higher the Fever, the leſs the Excretions by Sweat, Urine, Saliva, and the like.—

Certainly, if mere encreaſed Motion of the Blood can bring on a Fever, whatever will encreaſe

creaſe that Motion will continue and augment it, which theſe Methods and Medicines are known to do.

For theſe Reaſons alſo Bliſters, which throw an acrid ſalt into the Blood, and greatly ſtimulate the Fibres, are very improper in the Begining, at leaſt, of all ardent and inflammatory Fevers. — Yet, how often do we ſee, in the common Practice, a Patient bled largely, then bliſtered, and forthwith put under a Courſe of hot alexipharmac Bolus's, Cordials, *&c.* ? Which is juſt as rational as to pull out Part of too large a Fire firſt, and then forthwith endeavour to quench the Remainder by throwing on Gunpowder, or Spirit of Wine; — or to lay on Whip and Spur to a Horſe on the Fret, when we would ſtop him: which is really the Caſe in Bliſtering, where the oſcillatory Power of the Veſſels is too great, and the Motion of the Fluids too rapid.

After Bleeding, cooling, emollient, laxative Clyſters are of very great Uſe in the Cure of acute Fevers, even at the very Begining, to bring off the indurated Excrements, which frequently are pent up within the Inteſtins, and to give a Diſcharge to any bilious acrid Matter, which might otherwiſe, in Part at leaſt, be reſorbed by the *Lacteals*, &c. into the Maſs of Blood. — Beſides, they are a Kind of a warm, relaxing Fomentation to the Parts in the *Pelvis*

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and lower Belly, and both derive from the Head and *Præcordia*, and promote a Diſcharge of Urine alſo.

A gentle lenient Purge, likewiſe, is often of the greateſt Service, more effectually to cleanſe the inteſtinal Canal of the *putrid Saburra*. But I would always adviſe to ſuch as act chiefly in the *primæ viæ*, as *Manna*, *Cream of Tartar*, *Sal catharticus Glauberi*, *Rhubarb*, *Tamarinds*, and the like: — All *draſtic Purgers* are certainly very pernicious, and ſo are all the hot *aloetic* Tinctures, Pills, *&c.* — Indeed, all profuſe Purging is hurtful, as it drains off too much of the lymphatic Part of the Blood, and thickens the remaining. — When Nature ſeems to have too great a Tendency that Way, firſt a Doſe of *Rhubarb*, then a little of the *Species è Scordio*, with a *diacodiate* Anodyne, or the like, may be proper.

In very Deed, little more ſeems neceſſary in the Cure of ardent inflammatory Fevers, than proper and well timed Evacuations, and plentiful cooling Dilution, with a few nitrous Medicines, and the acid ſaponaceous Juices of Vegetables; for theſe not only tend to keep the Blood in a due Degree of Fluidity, but alſo to prevent its running into a putrid State: — In giving theſe freely, we do but follow Nature (our beſt Guide) that earneſtly demands them. — For how averſe ſoever ſhe may be to Meat in Fevers, ſhe

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ardently desires Drink; and it is a Symptom of very bad Omen when she doth not, till the Fever considerably abates, at least.

If, from any of the above Causes, an inflammatory Fever should seize a Person that had an antecedent sharp State of Humors, the Fever would prove much the more violent: because the acrimonious Salts would act as so many *Stimuli*, accelerate the Blood's Motion, and produce a speedier and greater Putrescence of it. —Hence therefore the utmost Necessity of Dilution in such Cases, to dissolve and wash off the Salts offending, (for nothing but a watery *Menstruum* will dissolve Salts) and likewise Medicines opposite in Nature to the peccant Acrimony.— But the Diluters also should have something of the Saponaceous in them, for Reasons hinted at above; especially when the oily Parts of the Blood are greatly encreased by the Melting down of the Fat by the Heat of the Fever: Which often happens to a surprising Degree, and very suddenly, in some very fat Persons, and which continually grows more and more acrid and rancid, and requires some saponaceous *Medium* to unite it with the aqueous Parts; otherwise it produces the most fatal Obstructions, and highest Degree of Acrimony.

As to the Manner of Dilution, I think the Sick should be allowed to drink as freely, and as often as they please, but not forced to load

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their Stomachs with too large Draughts at a Time; which create a *Nauſea*, Indigeſtion, and Wind, with great Anxiety and Reſtleſneſs, and, in the Event, Vomiting, or Purging.

The Practice of *Aſclepiades* was in Nothing more monſtrous than in denying all Manner of Drink to the Sick, for the firſt three Days of the Fever: And he is very far from keeping up to the Rule he lays down, of curing *tutò, celeriter, & jucundè*; when, as *Celſus* ſays, *convellebat vires ægri luce, vigilia, ſiti ingenti, ſic ut ne os quidem primis diebus elui ſineret. Lib.* iii. *Cap.* 4. — I am ſure that he did not learn this from the great *Hippocrates*, nor from Reaſon, Nature, or Experience. — But this Man from a *Declaimer* turned *Phyſician*, and ſet himſelf up to oppoſe all the Phyſicians of his Time; and the Novelty of the Thing bore him out, as it frequently doth the *Quacks* of the preſent Time; and ever will, whilſt the Majority of the World are Fools.

I think ſmaller Draughts, frequently given, the beſt Way of Dilution: For, of the ſame Quantity of Liquor drunk in a certain Time, more is like to be imbibed by the abſorbing Veſſels, planted thick from the Mouth to the Stomach, by frequently ſipping it down, than if ſwallowed at once in a full Draught; becauſe it is in this Way more frequently, and much

longer

longer applied to theſe Veſſels.—Beſides, when ſwallowed, the Action of the Stomach and Inteſtins is more effectual in ſqueezing it into the Lacteals and meſaraic Veſſels, when in ſmall Quantities, than when they are, as it were, deluged with the Liquor.

Moreover, Dilution and Relaxation may be further carried on by emollient Fomentations, tepid Baths, cooling lenient Clyſters, *&c.*—Bathing of the Arms and Hands, Legs and Feet, and alſo of the *Hypochondria*, is of very great Service in Fevers of the inflammatory Kind; (the good Effects of which I once experienced on myſelf) but the *Fotus* ſhould not be much hotter than the preſent Temper of the Body, which may eaſily be adjuſted by a *Thermometer*. This Method not only ſupplies the Blood with Moiſture through the abſorbing Veſſels, but alſo greatly tends to open the obſtructed, and produce a general Relaxation of Fibres, now commonly too rigid. In very dry *ſtrigoſe* Conſtitutions, it cannot but be of the greateſt Service.—The Skins and Bladders of Animals, when very dry, will tranſmit nothing; but, when moiſtened, Water, *&c.* will paſs through their Pores.—And the Drinking frequently of tepid, emollient Liquors is at the ſame Time a Kind of an internal relaxing *Fotus* to the *primæ Viæ*, *Præcordia*, *&c.* which is of no ſmall Conſequence, eſpecially in Inflam-

mations

mations of the Lungs, Pleura, *&c.*—I ſhall only further add on this Head, that this was the Practice of the Ancients, who gave little elſe in Fevers, beſides thin watery Diluents, *Ptiſan* or Barley-water, *Hydromel*, *Oxymel*, &c. and uſed very frequent Fomentations and Clyſters.

As encreaſed Velocity of the circulating Humors will of itſelf bring on a Fever, all Cauſes that encreaſe the Blood's Motion will encreaſe the Fever; the Strength of the Fever therefore will be in a compound *Ratio* of the moving Powers, *viz.* ſtrong tenſe Fibres, much denſe rich Blood, and many acrid Salts in it, which ſtimulate the Heart and Arteries to more frequent and vehement Contractions.— The large Uſe of very ſalt and ſpiced Meats will raiſe a feveriſh Heat, even in the moſt healthy.

On the contrary, the weaker and more lax the Fibres, the thinner and poorer the Blood, the leſs vehement the Fever.—This is the Caſe in what we call *ſlow*, or *nervous Fevers*; which are generated by low, watery, unwholeſome Diet, crude waſhy Fruit, rainy warm and wet Seaſons, long and great Anxiety of Mind, Dejection of Spirits, *&c.*—Here indeed a Kind of *Lentor*, or *Ropineſs* of the Humors, is alſo generated, and is a proximate Cauſe of the Diſeaſe; but it is not of the inflammatory Kind (or what the Ancients called *Phlegma phlegmonodes*, which is particularly inherent in

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the red globular Parts of the Blood) for it ſubſiſts chiefly in the ſerous and lymphatic Veſſels, which hence become obſtructed; and from ſuch a poor ropy State of the Blood few animal Spirits are generated, and they are irregularly ſecreted and diſtributed: hence the nervous Symptoms, which denominate the Fever. — And yet as there are Obſtructions formed, the ſtagnant Lymph grows more and more acrimonious, which brings on more or leſs of a Fever, known by the Quickneſs of the Pulſe, irregular Heats, Chills, *&c.* — All the Humors of the Body grow more and more corroſive, the longer they ſtagnate; even hydropric Swellings of the Legs, though at firſt as cold as Marble, become at laſt highly inflamed, the Humors at length ſo very acrid as to produce an Eryſipelas, Veſications, Ulcers, *&c.* as is often obſerved at the Cloſe of Dropſies.

Now as the Seat of *theſe Fevers* ſeems chiefly in the *ultima Vaſcula*, or the ſerous and lymphatic Arteries, and perhaps in the very Origin of the Nerves; and as they are always attended with too great a *Flaccidity* and *Torpor* of the Nerves and Fibres, and the Obſtructions lie more remote from the great Road of the circulating Blood; it is no Wonder they are not ſo eaſily affected by Medicines, and ſo readily removed, as if their Cauſe lay more particularly in the ſanguineous Veſſels.—Beſides it muſt be

conſidered, that the Nerves and Fibres are not preſently reſtored to their due Tone. — Hence we in Fact ſee that this Kind of Fevers is both longer in forming, and much longer in being carried off, than a common inflammatory Fever.

Theſe two Sorts of Fevers ſeem to have in a great Meaſure oppoſite Cauſes, and in Conſequence very different Symptoms and Effects. — Let us conſider ſome intermediate febrile State, which will elucidate this whole Affair. Turn we therefore our Thoughts on an intermittent Fever.

CHAP. II.

Of intermitting Fevers.

THE common procatarctic Cauſes of Agues are a moiſt, foggy *Atmoſphere* exhaling from a ſwampy, moraſs Soil, or a Continuance of cold, rainy, thick Weather; hence in low, fenny Countries Agues are *endemic*, and in ſuch Seaſons *epidemic*. By ſuch Conſtitutions of the Air the Fibres are too much relaxed, and regular Perſpiration obſtructed, which ſoon create a *Lentor* of the Blood, and that Obſtructions and ſome Degree of Stagnation in the ultimate Branches of the *ſanguineous Arteries*; as is manifeſt from the Coldneſs, Paleneſs, and Li-

vidity

vidity of the Fingers, Nails, Lips, *&c.* which immediately precede and begin the *Rigor* of *an aguiſh Paroxyſm.* — The Blood hence recoils upon the Heart, and all the Powers of Nature rouſe up to remove the Obſtructions; which are ſoon carried off by the hot Fit, in Sweats, turbid Urine, *&c.* — We ſee a Kind of aguiſh Paroxyſm brought on by Bathing in very cold Water; Paleneſs, Coldneſs, Shivering, a Stoppage of the Blood in the *cutaneous Arteries*, and Repulſion towards the Heart: you are no ſooner out of the Bath than the Heart, Arteries, *&c.* overcome the Reſiſtance from the precedent *Conſtriction*, and bring on an univerſal *Glow* of Heat. But, if the Perſon bathed be weak, the Water very cold, and the Continuance in it long; he may die in the cold Bath, as a weakly Patient may in the cold Fit, (which commonly happens, when the Diſeaſe proves mortal) the Heart not being able to overcome the Reſiſtance.

If the Fibres are pretty ſtrong, the *Lentor* and Obſtructions not very great; the Paroxyſm eaſily wears off by this Effort of Nature.— But if the *Lentor* and Obſtructions are great, the Fibres ſtrong and more tenſe; the Fever runs very high in the hot Fit, and is readily changed by wrong Management into an *acute Continual.* —Indeed it is obſervable that ſome epidemic Agues, in ſome Conſtitutions, at firſt put on the Appearance of ardent Fevers, and then

break into Quotidians, or Tertians; and it is not uncommon for a Quotidian, or Tertian, to be changed by a very hot Regimen at the Beginning, as volatile Spirits, Brandy, Pepper, Snake-root, *&c.* (which are too often quacked upon the poor Patient) into an inflammatory Fever with Phrenzy, Pleurisy, or Peripneumony.—So that the Constitution of the Solids and Fluids, in some Kinds of Agues, seems not greatly different from that of inflammatory Fevers. — I well remember, that the *catarrhal Fever*, which spread through all *Europe* under the Name of *Influenza* in the Spring, 1743, frequently became pleuritic, or peripneumonic; and as frequently, after two or three Days, ran into a Quotidian, or Tertian: the Difference of the Constitutions of the Patients, *&c.* thus altering the Face and Nature of the Disease.

Sometimes quotidian, semi-tertian and tertian Fevers, are very rife and cotemporary with epidemic Pleurisies, and Peripneumonies; as particularly in * 1744: — The cold Season, in some Constitutions, bracing up the Fibres so high, and condensing the Blood into such a Degree of Viscosity, as to bring on these inflammatory Fevers on taking Cold, or other Accidents; — whilst, on Persons of a more lax System of Nerves and Fibres, and more weak,

* *Vid. Obs. nostr. de Aere & Morb. Epidem. Vol. II. Martio, Aprili, Maio,* 1744.

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watery Humours, it only raiſed the Powers of the oſcillatory Veſſels ſo high, and warmed the Blood ſo much, as to carry off the ill Conſequences of deficient Perſpiration, and ropy heavy Juices, by repeated Fits of a regular Intermittent.— Thus we often ſee Perſons of low Spirits, and a leucophlegmatic Habit of Body, raiſed into a feveriſh Diſpoſition by the Uſe of warm invigorating Medicines, Chalybeates, *&c.* And if this Turn of Nature be well managed, it generally ends in their perfect Recovery.— If you can change a ſlow nervous Fever into a regular Intermittent, you ſoon cure your Patient.

But further, I have more than once known Pleuriſies, Peripneumonies, and inflammatory Rheumatiſms, reign very much in a cold, dry Spring, and a great Number of Intermittents ſucceed them in the following warmer Months; the Heat abating the Rigidity of the Fibres, and reſolving in ſome Meaſure the Viſcoſity and Denſity of the Blood: Whereas had the Solids continued more tenſe, and the Blood more denſe and viſcid, inflammatory Fevers would have been the Conſequence, on taking Cold, or the like; which now only produced an aguiſh Diſorder.

Regular *vernal Intermittents* have many Times very ſalutary Effects, by breaking the *Lentor* and *morbid Coheſions* of the Blood; as a Storm

purges a thick foggy Atmoſphere. The invigorating Power of the advancing Spring, and the encreaſing genial Warmth and Dryneſs of the Air, by rarefying and attenuating the heavy, ſizy Humors, and opening the Pores, are the Reaſons why vernal Agues go ſo eaſily off at the Approach of Summer. And probably the enlivening, attenuating Influences of the growing Spring, actuating the Powers of Nature to throw off the heavy, ropy *Colluvies*, that in ſome may be conſiderably amaſſed, during a cold moiſt Winter, may be one Reaſon, at leaſt, of the Frequency of Agues in the Spring Seaſon.—It is certain, all Nature at that Time of the Year undergoes a Kind of *Orgaſm*; even the torpid Vegetables regain freſh Life, and their concreted Juices reſume new Motion.

It appears from * Experiments, that the Blood in Quotidians is more denſe and tenacious than in Tertians, in Tertians than in Quartans; ſo that in Quotidians, *cæteris paribus*, it comes neareſt an inflammatory State: And it is commonly noted, that if the Fever, from a regular Tertian, runs into a Semi-tertian, or Quotidian, or greatly anticipates the Time of the regular Paroxyſm; a remittent, or continual Fever is forthwith the Conſequence.—And this is too often effected by a very hot Regimen, or a too haſty Uſe of the Bark.—Indeed

* *See Dr.* Langriſh's *Modern Theory*, &c. *Chap.* V.

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we very frequently ſee that Quotidians, and double Tertians, (which, by the bye, are oftentimes the ſame Thing) will not bear the Bark at the Begining; till the ſaline Draughts, proper diluting Attenuants, and, in ſome Caſes, Bleeding, Purging, and Vomiting have been made Uſe of.—In Truth, I never think it prudent, in ſuch Kinds of Intermittents, to give the Bark, in any Form, till after four or five Paroxyſms at leaſt, and after having drawn more or leſs Blood from Perſons pretty much inclined to the plethoric;—and this Method is more eſpecially to be obſerved in vernal Agues. — I muſt further note, that as nothing is more effectual in curing Agues than well-timed Vomits, and thoſe too repeated; (as Nature ſhews us, by making this one of her conſtant Efforts in the Paroxyſm) ſo previous Bleeding makes them much more ſafe, in full ſanguine Habits, eſpecially when given in the Paroxyſm; which is frequently practiſed with great Succeſs.—Nor is this a new Practice; for *Celſus* adviſes, *cum primum aliquis inhorruit, & ex horrore incaluit, dare ei oportet potui tepidam aquam ſubſalſam, & vomere eum cogere.* Lib. iii. Cap. 12.

We ſee then that ſome Kinds of Agues border too near on the inflammatory State, and require a cool Regimen, proper Dilution, and, many Times, Bleeding to ſome Degree, as well as other Evacuations. I have known it

neceſſary to join Nitre to the Bark during the whole Proceſs of Cure, and even ſometimes to ſuſpend its Uſe for a Day or two, and give Salt of Wormwood and Juice of Lemons with Infuſion of Chamomile-flowers and *Sevil*-orange Rind, or the like. — If an Intermittent runs into an inflammatory continual Fever, Bleeding and a gentle cool Purge will ſoon reduce it to its *Type*.

But as ſome Intermittents are apt to run up into an inflammatory Fever, far the greater Number, eſpecially in the autumnal Seaſon, are diſpoſed to ſink into low irregular Remittents, putrid or ſlow nervous Fevers. It is not a very rare Thing to find a Quotidian fall into a Tertian, thence into a Quartan, and at laſt end in a Dropſy; and this particularly in ſome Seaſons and Places. This evidently ſhews that the Fibres grow more and more enervate, and the Blood very vapid and watery. — Even vernal Tertians, which oftentimes cure themſelves in a favourable Seaſon, prove many Times exceeding obſtinate in wet, rainy Summers, and the Patients are exceeding apt to relapſe on the ſlighteſt Occaſions: This was particularly obſervable in the wet, cold Summers of 1734 and 1735*.—In ſuch Caſes I have known the daily Uſe of the Fleſh-bruſh, and frequent cold

* *Vid. Obſ. noſtr. de Aere & Morbis Epidemic. Vol. I.*

Bathing, of very great Use in preventing Relapses.—Perhaps it is the Winter-cold, bracing up the Fibres, that commonly puts a Stop to Agues in that Season; for it hath been noted, that they are often very stubborn in a warm moist Winter.

Improper Evacuations by Bleeding and Purging, an unwholsome, gross, glutinous Diet, vapid ropy Drinks, as stagnant heavy Water, foul Beer, and the like, render these Agues very *anomalous*, obstinate and dangerous, and make them frequently degenerate into malignant, putrid, or slow nervous Fevers; otherwise they end in Dropsies, Jaundice, or universal Obstructions of the *Viscera* of the *Abdomen*, and frequently in Diseases of the *Genus nervosum*. — In a Word, whatever takes down the Spring of the Fibres too much, and weakens the *Crasis* of the Blood, will be productive of these Mischiefs; and this especially, when due Perspiration is frequently interrupted by cold damp Air, Want of due Exercise, gross heavy slimy Diet, as Fish, Lettuce, Cucumbers, and other watery insipid Fruits, which are known to suppress the Perspiration greatly.

These Observations then evidently shew the Necessity of using a warm, invigorating attenuating Regimen in the Cure of Agues, which affect Persons of a lax Habit of Body, and a poor thin Blood; in a particular Manner when a wet,

a wet, foggy Atmoſphere prevails. — Under ſuch Circumſtances the *Cortex* of *Peru*, however good and carefully choſen, frequently proves ineffectual, unleſs aſſiſted with proper Alexipharmacs, as *Rad. Serpentar. Virgin.* — *Contrayerv. Myrrh*, *Camphire*, &c. — After four or five Paroxyſms, warm Chalybeates may be added with very great Succeſs. — But never be too haſty in giving the *Bark*, or Chalybeates, where the Patient hath a *yellow Caſt of the Countenance*, *a tenſe Abdomen*, and a very coſtive Habit of Body. — In which Caſe *mercurial*, *ſaponaceous*, *Deobſtruents* with *Rhubarb*, *Aloetics*, *regenerate* or *ſoluble Tartar*, ſhould be premiſed; nay they may in ſome Caſes be very conveniently joined with the *Bark*.

From the whole then of what hath been ſaid on this Head, it appears that a regular Tertian is a *Medium* between an inflammatory and a ſlow nervous Fever; and that, on the one Hand, the Conſtitution of the Solids and Fluids may be ſo highly wrought up as to fire the Blood into a continual Inflammatory; and that, on the other, it may be ſo far depreſſed as to bring on the low *Influent*, or *ſlow nervous Fever*.—And hence the Cauſe and Cure of ſuch Fevers reſpectively ſeem to be obvious.

Now as every Kind of Fever is a Struggle of Nature to relieve herſelf from ſomething oppreſſive, we ſhould always favour her Endea-

vours

vours by the moſt proper Means that Reaſon and Experience ſuggeſt. But we ſhould be very cautious, at the Begining eſpecially, how we proceed in ſpurring on, or bridling her Efforts, till we have well conſidered the Nature, Quantity, and Quality of the Diſeaſe, and the Conſtitution of the Patient. In order to this it will be highly neceſſary to make a diligent Examination into theſe two Things; *1ſt, the State of the Solids*; and *2dly, that of the Fluids.*

CHAP. III.

Of the State of the Solids.

PRobably all that we call Firmneſs of Body, and Strength of Conſtitution, is originally owing to the *rudimental Stamina* of our Bodies; and on the ſtrong, or weak, Texture of them, in a great Meaſure, depends our future proſperous, or adverſe Health.—There was indeed a determined Conſtitution and Strength of Fibres deſigned by Nature, and any Deviation from it may be called a Diſeaſe; which may ariſe from weakly Parents, Errors in Diet, Exerciſe, and many other Things: And this Deviation I would have heedfully attended to in Practice.

A due Proportion of *Tenſity*, conſiſtent with a proper Degree of *Flexibility*, conſtitutes the happy

happy *Medium* in which perfect Health consists. Too great a Degree of Rigidity tends to waste the nutritious Juices too suddenly, and ends in a *Marasmus*; as too great a Laxity of the Vessels makes them liable to be overloaded, and brings on a *Leucophlegmatia*, or Dropsy. The former over-digests the animal Fluids, the latter doth not sufficiently assimilate what is taken in by Way of Nutriment.

A very strong elastic Set of Vessels act with great Force on the contained Fluids, and produce much Friction, and of Course great Heat, and withal a constant and large Dissipation of the more subtile and aqueous Parts, which render the Blood-globules, in Proportion, more numerous, more dense and compact, and the Humors in general more viscid; as is evident by the State of the Blood always observable in strong laborious People, which is ever of this Kind.— Where this considerably overbears the Standard of Nature, it becomes *constitutional Disease*, and causes a perpetual Fever, as it were, and at long Run ends in *Atrophy* and a compleat *Marasmus*, if some violent inflammatory Disease does not snap them off much sooner; and to which they are exceedingly liable, and from which, on Account of the dense viscous State of the Blood, the Rigidity and Contraction, or *Stricture* of the Vessels, they escape with much greater Difficulty than others

of

of ſofter Fibres, and a more weak, but fluxile, Blood. There is no Advantage without an Allay; the Roſe hath its Prickles; theſe Diſadvantages flow even from the higheſt Health and Vigor: *Human Frailty!*

In ſuch Conſtitutions the Uſe of emollient farinaceous Drinks and Diet is highly proper, and frequent ſubtepid Bathing, eſpecially in very dry, and very cold Weather. — Where Perſons of ſuch a Frame fall into inflammatory Fevers, as Pleuriſies, Peripneumonies, or the like, I would always adviſe great Plenty of tepid, watery, emollient Diluents to be perpetually ſipped; by which Means the warm Vapor relaxes the Parts and Paſſages of the Lungs, and promotes a freer Flow to the Blood through them, and a more eaſy and copious Expectoration; at the ſame Time that the Blood is thus moſt effectually diluted. — Withal Fomentations, emollient and diluting, moderately warm (not too hot) ſhould be applied to the Feet, Legs, Hands, Arms, *Hypochondria* and Breaſts; which have oftentimes a ſurpriſing good Effect, and are of infinitely greater Advantage and Efficacy than ſome of the *indigeſtible Traſh of the Shops*, upon which ſo much *Streſs* was formerly laid.

I have known the prepoſterous Uſe of the *cold Bath*, on a *ſtrigoſe* and a *too rigid Habit* of Body, of exceeding great Detriment; for that

even

even yet augments the *Corrugation* and *Tenſity*. — You may generally obſerve that moſt, who uſe the cold Bath, grow ſomewhat thinner, though more vigorous and active.—Some Years ſince I was conſulted by a Gentleman of a thin ſcraggy Habit of Body, but of much natural Vivacity of Spirit, and one that conſtantly uſed much Exerciſe, and had long accuſtomed himſelf to cold Bathing in the Sea very frequently, even ſometimes in very cold Weather: He waſted daily in his Fleſh, and at length became weak and very low-ſpirited. — I judged, that by this Method the fibrous Syſtem was over-braced, and that too much of the finer *Lymph*, and even of the *Liquidum nervoſum*, was forced off by the Pores, *&c.* For he all this while uſed a ſufficient Quantity of Food, and had no extraordinary ſenſible Evacuation.— I put him on a ſoft, relaxing, nouriſhing Diet, forbad him the Uſe of the Cold-Bath, and at laſt ſent him to uſe the Waters at the *Bath*: — The Event was, that he ſoon recovered much better Health, Spirits and Fleſh. Nothing on the contrary more effectually ſtrengthens weak, lax Fibres than cold Bathing. By this weak, flabby, rickety Children are ſoon invigorated, as it were to a Miracle.—Indeed in the Times of Popery and Ignorance, when the Prieſts were Knaves, and the People Fools, many a *Well* was ſanctified for nothing but pure *cold Water*, the

the Virtues of which the *Miracle-mongers* wholly attributed to a *Saint* of their own making.

The Doctrine of the ancient *Methodists*, with Respect to the *Strictum* and *Laxum*, if rationally pursued, might be of great Service in the Practice of Physic; though they indeed frequently confounded them both in Theory and Practice. But *Boerhaave* hath made many rational and valuable Observations on the Diseases of too tense, and too lax Fibres, which are of exceeding great Use in Practice.—There seems to be another *Species of Fibres* not taken Notice of, which may be called the *tender*, or *delicate Constitution of the Solids*, which is most readily and highly affected with Pleasure, or Pain; but in which the *Stamina* are so slender, that a very slight Accident breaks them. This is often observed in thin, fair Persons, of a very delicate Frame, but exceedingly lively; in whom the *Spirit* is willing, though the *Flesh* is weak: Such very often fall into a *Hæmoptoe*, or other *Hæmorrhages*, Colliquations, and a pulmonary *Phthisis*, and thence become what is peculiarly called Consumptive.

We have taken a short View of the ill Effects of a too great *Stricture*, or *Tension* of the Solids; let us next cursorily see what Disadvantages arises from their too great Laxity.

Weak Vessels do not sufficiently act on the contained Fluids, they do not sufficiently *comminute*,

minute, *round off*, and *assimilate* the chylous Particles: — Indeed the Chyle itself, where the Organs of Digestion are weak, is never well prepared. — Where the Vessels have a due Tone, and act with Vigor on the nutritious Juices which they receive from the Stomach, *&c.* no chylous irregularly formed Particles are to be found in the Blood after a few Hours from the Repast; but, in weakly *leucophlegmatic* People, they are never, or not till after a very long Time, reduced into Blood-globules, and a proper *Serum*. — Besides in these lax Habits the Blood itself is not sufficiently actuated, and driven on with Force enough to keep a due vital Warmth, nor to work up the Salts and Sulphurs, or Oils, to such a just Degree of *Tenuity*, as may fit them to serve the Purposes of animal Nature; nor are the red Globules of the Blood (the great Principle of Life and Heat) duly compacted, and moulded into a sufficient Roundness and Firmness. — Hence irregular Concretions in the Vessels, a *Lentor*, or *Ropiness* in the *Serum* and *Lymph*, few animal Spirits, and all the Secretions weak and imperfect. — From the whole follow *Cachexy*, *leucophlegmatic* and dropsical Disorders, irregular intermittent and remittent Fevers, or those of the slow nervous Kind; the Humors running into a Kind of Putrescence for Want of due Motion and Circulation, and stagnating in the *ul-*

tima Vaſcula, on Account of the Obſtructions continually forming from the Want of a due Action of the Veſſels, which do not ſufficiently agitate, comminute and protrude their Contents.

Now all Humors of the Body, that ſtagnate, ſoon begin to corrupt and grow acrimonious, and that too many Times to ſuch a Degree as to bring on Fevers of the worſt Kind: For though the Circulation may be very languid, from the Weakneſs of the contracting propelling Veſſels, yet it is ſufficient to cauſe ſome Degree of feveriſh Heat from the ſtimulating Acrimony, and at laſt a general Putrefaction; witneſs the *chlorotic Fevers*, which very often prove of exceeding dangerous Conſequence.—Cold hydropic Tumors of the Legs frequently end in a Kind of Eryſipelas and Gangrene.

A due Conſideration therefore of the State of the Solids is a Matter of high Importance to Phyſicians, not only in chronic, but alſo in acute Diſeaſes; for they are generally the primary efficient Cauſes of the particular States of the Fluids. For Inſtance, we may naturally conclude that a Man of a robuſt Conſtitution, ſtrong, rigid Fibres, and uſed to much Exerciſe, hath a denſe rich Blood, inclining to ſuch a Degree of Viſcidity, as will bring on Inflammations on the Acceſſion of a feveriſh Diſorder; and, of Courſe, that timely Bleeding is the

proper Way to prevent it: On the contrary, that a weak, lax, flabby Conſtitution hath a poor thin, watery Blood, and cannot bear Bleeding well, nor large Evacuations.

A diligent Enquiry of this Nature is of vaſt Concern in the Begining of acute Diſeaſes, particularly in the Small-pox, and other eruptive Fevers; ſo as to determine one to bleed, or not to bleed.

For Inſtance, where a ſtrong Man, with a ſtrong Pulſe, is ſeized with violent Symptoms of the Small-pox, it would be unpardonable not to bleed before the Eruption; for we cannot but ſuppoſe the inflammatory Fever muſt run high in ſuch a Conſtitution; but it would be great Raſhneſs to bleed Perſons of a weak, lax Habit, unleſs ſome very urgent Symptom demanded it.—Yet how little is this regarded in the vulgar Practice? For ſome bleed, and vomit, of Courſe, upon the leaſt Appearance of an Attack of the Small-pox; whereas others are ſo fearful of weakening their Patients, that they ſuffer them to die of the Inflammation, even abſtracted from the Virulence of the Diſeaſe.

If a Phyſician hath a previous Knowledge of the Patient, he can be at no great Loſs in judging of his Conſtitution; and therefore *Celſus* rightly pronounces, *cum par ſcientia ſit, utiliorem*

tamen

tamen medicum esse amicum quam extraneum *. When that is not the Case, hard firm Flesh, dry Skin, great Heat, Thirst, and Colour, hot Breath and violent Pains, with a strong, tense, quick Pulse, are pretty evident Symptoms of strong, very elastic Fibres, and of an ardent or inflammatory Fever.—A weak, quick, soft Pulse, no great Heat, or Colour, little Thirst, pale Urine, a soft Flesh and Skin, clammy, partial, irregular, cold, or profuse Sweats, with Heaviness and Anxiety, rather than severe Pains, and a moist, though perhaps a white coated, or foul Tongue, denote the contrary.—But in Truth these Things are rather to be learned from Experience, than taught by Precept:—Therefore I shall say no more on this Head.

CHAP. IV.

Of the State of the Fluids.

THE State of the Fluids should next be considered, which, in a great Measure, depends, as was said before, on the Condition of the Solids.

There is then, *1st*, a State of the Blood, in which the Humors are too dense and viscous, in which the Blood-globules are in too great

* *Præfat. sub. finem.*

Quantity, and too closely compacted or condenſed, in which the ſerous Globules are ſo likewiſe.—In a Word, in which the whole Maſs of the Fluids is too glutinous, and too apt to concrete into a ſolid Form.—Perſons of vigorous Conſtitutions, of ſtrong Fibres, that uſe much Exerciſe, and a full Diet, are peculiarly ſubject to this State.—Now when the Blood-globules are very denſe, and in great Quantity, and the Veſſels very ſtrong and elaſtic, a great *Momentum of Motion* muſt be produced in the circulating Fluids, and of Courſe great Friction, and much Heat, which both diſſipates the more fluid Parts of the Blood, and encreaſes its Viſcoſity; ſo that the Reſidue becomes very glutinous, and leſs fit to paſs the extreme Branches of the capillary Arteries; and hence Obſtructions, hence Inflammations.

Beſides great Heat tends to coagulate the *Serum*; a Heat, not much above the common Heat in an ardent Fever, will turn the *Serum* of the Blood into a Jelly, as is found by Experience:—Hence, when Blood is drawn off in high inflammatory Fevers, it appears covered over with a thick glutinous Coat, or *Buff*, as it is called; I have ſeen it in ſome ſevere pleuritic and rheumatic Diſorders near an Inch thick.—That it is thus formed by the febrile Heat, is manifeſt; for at the firſt Bleeding, at the very Begining of the Fever, it ſhall often

appear

appear pretty florid, tho' very denſe; whereas on the ſecond, third, or fourth Bleeding, when the Heat hath had a longer Continuance, and been encreaſed to a greater Degree, it becomes exceeding ſizy, and covered over with a very thick Buff: — And indeed, in general, the ſtronger the Fever, and the Perſon from whom it is drawn, ſo much the more thick and tenacious.—And this in a particular Manner happens in Fevers attended with violent Pain, as Pleuriſies, Rheumatiſms, *&c.*—For the Pain being a *Stimulus*, which greatly encreaſes the Motion, Friction, and Heat, it *incraſſates the Serum* in Proportion to its Vehemence.—And the inflammatory *Size* alſo ſticking in the extreamly ſmall Veſſels of the Membranes, *&c.* over-diſtends them, and produces further Inflammations and Pains; ſo that they mutually encreaſe one the other. Tho' this denſe State of Blood, in Health, is attended with great bodily Strength, a ſtrong firm Pulſe, and much natural Heat; yet, on the Acceſs of a Fever, it produces very violent Symptoms, quickly fatal, unleſs prevented by timely Bleeding, cooling, diluting, emollient Drinks and Medicines.

But further, an Over-fulneſs of even good Blood is a Degree of Diſeaſe, and therefore *Hippocrates*, * pronounces the *athletic* Ἐυεξία

* *Aphoriſm* 3. *Sect.* i.

dangerous, and *Celſus* elegantly ſays from him, that Perſons of ſuch a Habit *ſuſpecta habere bona ſua debent* *.—Such a *Plethora* not only over-diſtends the ſanguineous Arteries, but alſo too much dilates the Orifices of the ſerous and lymphatic Arteries; by which, on the ſlighteſt Occaſions, the Blood-globules are forced into them, and form Obſtructions *errore loci*, as it is called: Whence Inflammations and Ruptures of the Veſſels frequently follow, particularly in the Brain and Lungs.—Here nothing will relieve equal to Blood-letting, which (if not too immoderate) is ſo far from weakening, that it ſtrengthens the Patient, by reſtoring a due *Æquilibrium* between the Solids and Fluids: The keeping up of which however is a Matter of great Nicety in ſome Caſes and Conſtitutions; tho', in general, it admits of a conſiderable *Latitude*, even conſiſtent with Health. Some delicate, florid, plethoric People ſuffer immediately from a very ſmall Degree of over, or under, Living; and I have known ſome Men of this Conſtitution, that have had as regular a *menſtrual Diſcharge*, by ſome Kind of Hæmorrhage, as the more delicate Sex.—The beſt bred, and moſt accurately fed, *Cock*, will not hold his *athletic State* above twenty-four Hours †, and dwindles from it ſurpriſingly

* *Lib. II. Cap. 2.* † *See Dr.* Bryan Robinſon *on the Food and Diſcharges of human Bodies*, p. 119.

ſoon

ſoon—*Quia non ultra progredi poteſt, retro, quaſi ruinâ quâdam, revolvitur*, as *Celſus* * ſays of a plethoric Man.

There is, 2*dly*, a Conſtitution, or Craſis of the Blood, quite oppoſite to the former, in which there are too few Blood-globules, and thoſe too looſely compacted; and in which the *Serum* is too watery and vapid, and ſometimes of a ropy ſlimy Nature. From this weak pituitous Blood all the Secretions are imperfect, and not ſufficiently participant of an animal Nature; the *Bile inert*, the animal Spirits flat and deficient, the *Saliva* a mere *inſipid Mucus*, and ſo on.—Hence univerſal Indigeſtion, Weakneſs, Coldneſs, Paleneſs, *Cacochymy*, Dropſy, *&c.*—In a Word, ſuch a ſlow Motion of the Humors, that at length, for Want of a due Circulation, they run into morbid Concretions obſtructing the Veſſels in ſome Places, and ſtagnating in others, where they fall into ſpontaneous Corruption, productive at laſt of ſuch a Degree of Acrimony, as to end frequently in Fevers of a very malign Nature, and dangerous Conſequence: And this the more ſo, as the Veſſels, in ſuch a miſerable Conſtitution, have greatly loſt their Elaſticity, and the Blood its moſt vital Principles:—So that, in the Event, either the *ſlimy Lentor* ſtagnates up to the Heart, or the corrupted Hu-

* *Lib. II. Cap. 2.*

mors corrode and deſtroy the moſt delicate and eſſential Parts of the animal Fabric, particularly the *Compages* of the Brain, where the Humors naturally move exceeding ſlow, and the Veſſels are of the moſt tender Structure.— Thus as too rapid a Circulation often burſts the minute Veſſels; ſo the Humors, moving too ſlowly, ſtagnate, corrupt, and at length corrode them.

Theſe two different States of the Fluids may not improperly be called conſtitutional, as they naturally follow the reſpective State of the Solids; ſo as that a ſtrong rich Blood always attends a ſtrong elaſtic Set of Veſſels, and a weak watery Blood a relaxed Habit of Body: where either conſiderably deviates from the Standard of Nature, it becomes a real Diſorder, and is to be duly regarded in whatever concurring Diſeaſe happens *.

* *Ardent and inflammatory Fevers are naturally the Effect of over-elaſtic and rigid Fibres, and a very denſe viſcid Blood; as the low and ſlow nervous Kind are of a too lax State of Veſſels, and a weak and thin Blood. — But there are ſeveral Diſeaſes, eſpecially thoſe ariſing from Contagion, which are common to both.*

CHAP. V.

Of the diſſolved and putrid State of the Blood.

BUT, beſides theſe, there is moreover a *third State of Blood*, of more dangerous Conſequence than either; I mean a State of it, that more immediately tends to *Diſſolution* and *Putrefaction*:—This is evidently the Caſe in ſome *Scorbutics*, (as they are called) where, without any conſiderable, antecedent, ſenſible Diſorder (more than perhaps a Kind of Laſſitude and Langour) Perſons have, on a ſudden, an Eruption of violet-coloured, livid, or even black and blue Spots all over their Body, and forthwith fall into profuſe, and ſometimes dangerous, and even fatal *Hæmorrhages*, when they have ſcarce thought themſelves, or been thought by others, to be under any Manner of Diſorder.—Abundance of Inſtances of this Kind happen: I have ſeen a great many both in Children and grown Perſons, and frequently foretold the enſuing Hæmorrhage.

Where *Women* have ſuch Eruptions, or black or blue *Vibices*, or large irregular Spots like Bruiſes, they are always ſubject to a vaſt Overflow of the *Catamenia*, if not to other profuſe Hæmorrhages.—Nay when Perſons of either Sex are affected with theſe Appearances, they

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are apt to bleed exceſſively from the ſlighteſt Wound, and very often without any, from the Gums, Noſe, Guts, or urinary Paſſages.

The Blood of ſuch Perſons, when it hath been drawn off, in order to prevent the further Progreſs of the Hæmorrhage, as was imagined, (which by the Way is very improper, unleſs there are very manifeſt Signs of a *Plethora*) always appears a *mere Gore* as it were, not ſeparating into *Craſſamentum* and *Serum*, as uſual, but remaining in an uniform half-coagulated Maſs, generally of a livid, or darker Colour than uſual, tho' ſometimes it continues long very florid; but it always putrefies very ſoon.—It is even obſervable, that the *Breath* of ſuch People moſt commonly ſtinks much before the Eruption, and their *Urine* frequently ſmells very rank; evident Signs of the beginning *Putridity* of the Humors; which, growing more and more acrimonious, at length erode the Veſſels. For theſe Kinds of Hæmorrhages often happen to Perſons, that have not the leaſt Sign of a *Plethora*, no full, no very quick Pulſe, little or nothing of a feveriſh Habit, nor under the Uſe of violent Exerciſe; ſo that they happen from the *Corroſion*, not the *Rupture*, of the Veſſels broke open by too great a Quantity and Velocity of the Blood.—In ſome very tender and delicate Conſtitutions indeed, a very ſmall Effort will ſometimes burſt their

fine-

fine thin Veſſels, as is obſervable in ſome, who are ſubject to a *Hæmoptoe*, or Bleeding at the Noſe from every ſmall Accident; but theſe Hæmorrhages are ſeldom attended, or preceded, with livid, or violet-coloured Eruptions, *&c.*——In theſe Caſes Drawing of ſmall Quantities of Blood is proper, to abate the too great *Impetus* on the tender Veſſels, even tho', there may be no apparent *Plethora.*

Tho', I am perſuaded, the above-mentioned Hæmorrhages moſt commonly ariſe from an *acrimonious State of the Humors*, which breaks the *Craſis of the Blood*, and corrodes the Extremities of the capillary Arteries; yet they ſometimes alſo happen from a too looſe Contexture of the Blood-globules, not ſufficiently compacted by the Action of the Heart, Arteries, *&c.* for Want of which they become *oblate Spheroids*, or irregularly formed *Moleculæ*, inſtead of *regular Spheres*, and of Courſe of a greater Diameter, and a leſs firm *Compages* than natural.—But it appears from microſcopical Obſervations (eſpecially thoſe made with the *Solar Microſcope*) that the Blood-globules, in paſſing thro' the minuteſt Ramifications of the ſanguineous Arteries, change their globular, into a very oblong Figure frequently, in order to paſs thro' theſe exceeding ſmall Veſſels.—And it is eaſy to conceive how theſe looſely cohering Globules may be broken

in

in their Paſſage, as the enlarged Bulk makes their *Tranſit* more difficult.—Now as theſe broken Parts are of much leſſer Diameter than the original Globules, they may readily enter, and even paſs thro' ſome of the excretory Ducts, and tranſude *per Diapedeſin*, as the Ancients called it.— That this is ſo in Fact ſeems to appear from the bloody Urine, Stools, and other Hæmorrhages, which ſometimes happen without any Manner of Pain, Violence of Motion, or the leaſt Suſpicion of the Rupture of any Veſſels:—Nay, I have more than once or twice ſeen in malignant Fevers, and that too where the Motion of the Blood was far from being very rapid, a Kind of * bloody Sweat from the *Axillæ*, tinging the Linnen almoſt of a *Burgundy* Wine Colour.—And it is obſervable, that when this Sort of Hæmorrhages happens from the Noſe, the Matter is a thin *bloody Ichor*, not concreting, as Blood commonly doth from the Noſe of Perſons in Health, or in an inflammatory Fever, which is generally very thick, ſhining and florid:—Some *chlorotic Girls* are vaſtly apt to bleed from the Noſe, and yet their Blood doth but juſt colour a linnen Cloth.—The *Petechiæ*, *Vibices*, or livid *Stigmata*, that very often attend theſe Hæmorrhages, ſhew that the Blood-globules are diſ-

* *Dr.* Hodges, *of the Plague, obſerved purple Sweats in it, and ſome like Blood.*

ſolved,

ſolved, or broken down, and enter into the ſerous Arteries, *Vaſa exhalantia*, &c; where ſticking faſt they form theſe Appearances.—And I have particularly noted, in ſome putrid, malignant Fevers, a Kind of yellow, or rather dun *Petechiæ**, vaſtly numerous, and of not leſs fatal Omen than the others: Here the Blood-globules were broken into ſuch ſmall Particles, as to have quite loſt their original Colour when combined. Perhaps the fuliginous Sweats, and dark-coloured, or black Urine with a livid Sediment, which ſometimes happen in Fevers of the malignant Kind, ariſe from a broken corrupted State of the Blood-globules: I have ſeen ſeveral Times the Urine rendered almoſt quite black, depoſiting an immenſe Quantity of Matter nearly of the Colour of *Coffee-grounds*.—And we are ſometimes ſurpriſed to ſee the Face and Hands of the Sick grow *dirty*, and *ſooty* as it were, tho' all imaginable Care was taken to keep them clean.

Beſides there are ſome Things that ſeem to deſtroy the *Copula* of the Blood-globules, and greatly promote the *Seceſſion* of the *ſix ſerous Globules*, that compoſe them, one from another; particularly *Laurel-water*, which makes the *Craſſamentum* vaſtly leſs denſe, and exceed-

* *Vid. Obſ. noſtr. de Aere & Morb. Epidem. Vol. I. Ann.* 1735, *Mart. & Aprili*; & *Vol. II. Anno* 1740, *Junio.*

ingly

ingly more ſoft and tender than natural, and turns the Serum red, or of the Colour of *Burgundy* Wine, as appears from the curious Experiments * of Dr. *Nicholls* and Dr. *Langriſh*. †. —The Bite of the Serpent *Hæmorrhous* ‖ cauſes ſuch a Diſſolution of the Blood, that it breaks forth from all Parts of the Body, even the very *Pores*, and kills by an *univerſal Hæmorrhage*. Poſſibly *profuſe Sweats*, *Diarrhœa*, *Diabetes*, and ſpontaneous Salivations, may ariſe from a Kind of Diſſolution of the ſerous Globules.—A long and large Uſe of *Mercury* will turn the whole Maſs of Blood into a mere watery *Colluvies*.

But, as I ſaid before, this broken, corrupted State of the Blood-globules is, in general, the Effect of Acrimony. ‡ *Sal volatile oleoſum* mixed with Blood freſh drawn, deſtroys, or diſſolves the Globules in leſs than a Minute; ** Spirits of Harts-Horn, taken in large Quantities, will produce Hæmorrhages; and ſo will frequent and large Doſes of Aloetics, as I have again and again obſerved.—Indeed, ſuch a State

* *Dr.* Mead *of Poiſons, 3d Edit. p.* 270.

† *See his Experiments on Brutes.*

‖ *See* Lucan, Dioſcorid. Nicander *in* Theriacis, *&c. Dr.* Mead *of Poiſons.*

‡ *See* Leeuwenhoek. Epiſt. ad Chriſtoph. Wren, Arcan. Natur.

** Arbuthnot *of Diet, p.* 106.

of Blood is commonly brought on by acrimonious Diet, Medicines, *&c.*—Thus the ſalt and half rotten Proviſions of Sailors, in long Voyages, cauſe ſuch a Sharpneſs and Corruption of the Humors, that they are rendered almoſt unfit for the common Uſes of Life, producing great Weakneſs, Languors, wandering Pains and Aches, ſtinking Breath, corroded ſpongy Gums, black, blue and ſallow Spots, ſordid, dark, livid, fungous Ulcers, Gangrenes, *&c.* and ſuch *Scorbutics* frequently fall into petechial Fevers, bloody Dyſenteries, Hæmorrhages, *&c.* What is mentioned by the Rev. Mr. *Walter*, in Lord *Anſon*'s Voyage, is very ſurpriſing, *viz.* that the Blood burſt forth from the Wounds of ſome of the *Scorbutics*, after they had been *cicatriſed* for twenty or thirty Years.—I have known many a Ship's Company ſet out on a Cruize in high Health, and yet in two or three Months return vaſtly ſickly, and eaten out with the Scurvy, a third Part of them being half rotten, and utterly unfit for Service.—About four or five Weeks after they have been out, they begin to drop down one after another, and at length by Dozens, till at laſt ſcarce half the *Complement* can ſtand to their Duty :—Particularly I remember, ſome few Years ſince, from a Squadron under Admiral *Martin*, we had near 1200 Men put on Shore ſick at one Time,

tho'

tho' they went out very healthy, and returned in about twelve or thirteen Weeks *.

Thoſe who accuſtom themſelves to take largely of volatile and fixed alcalious Salts, Spices, and Aloetics, are always ſubject to theſe Maladies.—Not a few of thoſe, who took the *alcalious ſaponaceous Hotch-potch of Mrs.* Stephens, and the *Soap Leys*, for a long Time together, fell into hectical Heats, a hot Scurvy, Hæmorrhages, Dyſentery, *&c.*—A remarkable Inſtance of this lately happened to a Gentleman of the *Weſt of Cornwall*, who for ſeveral Years had laboured under a Stone in his Bladder:—He was originally of a tender Conſtitution, and had taken the *Lixivium*, &c. for ſeveral Weeks, till at length his Gums began to grow exceeding ſpongy, inflamed and livid, at laſt extreamly ſore and putrid, inſomuch that the Fleſh might be pulled off with the greateſt Eaſe; they bled conſiderably on the leaſt Preſſure, and a thin bloody *Ichor* continually leaked off from them.—Livid Spots alſo appeared on him, and his Legs, and Thighs eſpecially,

* *Upon this I drew up a Propoſal for preventing the Scurvy among the Sailors, which I communicated to ſeveral Captains and Surgeons of the Men of War. This I afterwards publiſhed in the* General Evening Poſt *in* Octob. 1747, *which was republiſhed in the* Gentleman's Magazine, *&c. for* Octob. 1747.—*As it hath ſince been tried with Succeſs, both in the Men of War and Privateers; and, as I am fully convinced of its Uſefulneſs, I again recommend it.* See *Page* 259.

became

became vaſtly ſore, and of a Claret Colour, or rather more livid, ſo that a Mortification was feared.—Upon this I was conſulted for him by Mr. *Hingſton*, a very ſkilful *Apothecary of Penryn*, who ſtated his Caſe. — Apprehending an *alcaleſcent*, putrid State of the Humors, and a Diſſolution of the Blood from the Courſe he he had gone through, and the Symptoms he now laboured under, I adviſed the Decoction and Extract of the *Bark* with *Elixir Vitrioli*, and ſubacid Drinks and Diet; which ſoon took off the Inflammation, Sponginеſs, and Bleeding of his Gums, and prevented the further Advance of the livid Colour of his Thighs, *&c.* which in a few Days diſappeared. — About ſome two or three Weeks after, a copious Eruption of red, firey Puſtules broke out upon him, which ſeemed to promiſe ſome Advantage: — However, being reduced exceeding weak by a Complication of Diſorders, and a confirmed Hectic, he died quite tabid about a Fortnight or three Weeks after. — A very *large Stone was taken out of his Bladder* after his Death, of the Shape of a Pear, weighing ℥viii ℈ſs Avoird. the ſmaller End lay towards the Neck of the Bladder.

It unqueſtionably appears from Experiments made on the Urine of thoſe, that have taken pretty largely of the *Lixivium*, or Mrs. *Stephens*'s Medicines, that the Urine becomes al-

calious *, and of Courſe the Serum of the Blood likewiſe, from whence it was ſecreted.— This is indeed a very ſtrong Argument in Favour of the *lithontriptic*, or *diſſolvent* Power of the Medicines; as they have undoubtedly this Effect on human *Calculi*, when macerated in them, out of the Body. — But I think, at the ſame Time, it gives us juſt Reaſon to ſuſpect very dangerous Conſequences from a long Uſe of ſuch Things; eſpecially in ſome tender Conſtitutions.

It is well known, that volatile-alcali Salts mixed with the Blood, when juſt drawn, or rather as it runs from the Vein, keep it from coagulating, and hinder it from ſeparating into Craſſamentum and Serum, as uſual: The Experiment is eaſy, and every one will find it true on Tryal. This very adequately reſembles the Blood drawn from the bleeding Scorbutics, and alſo from moſt Perſons that labour under putrid petechial Fevers, when the Blood is drawn very early in the Diſeaſe.

All Humors of the Body, actually putrefied, become a ſtrong Alcali, and putrid Blood loſes its Conſiſtence, and ſoon after its Colour, running into a yellowiſh dark-coloured *Sanies* —— The Blood drawn in ſome greatly putrid, petechial Fevers hath had this Appearance, and been ob-

* *See the Experiments of Dr.* Hartley—Rutty. Monſ. Morand, *&c. on this Matter.*

ſerved

ſerved actually to ſtink as ſoon as drawn *, as well as the Urine as ſoon as made; ſo far was the Putrefaction advanced whilſt even Life was ſtill ſubſiſting. The ſurpriſingly great, and ſpeedy Corruption of Bodies, dying of peſtilential Fevers with Spots, ſhews this likewiſe: I have known ſuch a *Corpſe air* † as much, as they call it, in ſeven or eight Hours, as dead Bodies commonly do in ſeven or eight Days, and to leak out a moſt putrid *Sanies* from all the Outlets of the Body: — Which, by the bye, is a Reaſon why Perſons, dying of ſuch Fevers, ſhould be buried very ſoon.

Some Kinds of Poiſons, as particularly the *Bite* of a *Viper*, and ſome other venomous Animals, bring on a very ſudden Corruption and Diſſolution of the Blood, and turn it into a yellowiſh *Sanies*: *Peſtilential Effluvia* alſo ſoon deſtroy the *Craſis* of the Blood, and produce an univerſal gangrenous Diſpoſition in the Humors. This is evident from the frequent and fatal Hæmorrhages, exceſſively fœtid Sweats, Vomitings and Stools, and the general *Necroſis* that follows, which have been obſerved in the Plague, and peſtilential Fevers, by the beſt Authors ‖. — The Hæmorrhages in particular

* *Vid. Vander Mye de Morbis Bredanis—Morton, Pyretolog. Prolegomen. p.* 26.

† *De Aere & Morb. Epidem. Vol. I. Martio* 1735.

‖ *Particularly* Diemerbroek, Hodges, *and the Authors in* Traité de la Peſte fait par Ordre du Roy, *Paris* 1744. 4*to.*

are often vaſtly profuſe and obſtinate in the Plague; and I have many Times noted the ſame in peſtilential and petechial Fevers; and the Blood, thus iſſuing, doth not coagulate * as uſual: —All Arguments of the higheſt Acrimony and Diſſolution of the Blood.

The Contagion of the Small-pox ſeems to affect ſome Conſtitutions much in the ſame Manner, producing Spots, Putrefaction, and vaſt Effuſions of Blood from ſeveral Parts of the Body, ſometimes even at one and the ſame Time. —— I have ſeen many Inſtances in this Diſeaſe, where, within four or five Days from the Seizure, Purples have appeared all over the Body, and Hæmorrhages from ſeveral Parts in a profuſe Manner; particularly the *Uterus*, urinary Paſſages, and Noſe; and the Puſtules have turned quite black, a *bloody Ichor* iſſuing from them in Abundance; and this too where no violent Symptoms of any Kind had preceded.—Little Miſs *R—n*, about five Years old, had ſuch a Kind about fourteen Years ago; they came out with ſcarce any conſiderable Fever, Pain, Sickneſs, or the like, yet Spots appeared at the ſame Time very large, livid and black.—The Pox were but few, ſome of which about the Lips, internal Parts of the Cheeks, and Tongue, turned very black, and bled pretty largely.—The Child was often taken

* *Traité de la Peſte, Part I. p.* 343.

with

with a ſlight *Deliquium*, and forthwith would return to her Play-things as before. — At length ſhe brought off pretty much florid Blood, and ſome black and coagulated, by Stools, and ſunk away inſenſibly as it were into the Arms of Death, about the ninth Day from the Attack of the Diſeaſe.

I lately ſaw a dreadful Caſe of this Kind in Miſs *B—y*, a young Gentlewoman, who had much fatigued herſelf in very hot Weather, immediately before the Seizure with the Small-pox, by walking, riding, dancing, *&c.* —— She had Millions of *truly ſmall* Pox, and a vaſt Number of black and blue Spots, that broke out all over her Body the third Day incluſive from the Seizure, and her Legs and Thighs appeared quite purple; ſhe bled at the Gums and Noſe very largely, and yet at the ſame Time had a very profuſe Diſcharge of the *Catamenia* about ſix Days before the regular Period.— She died the ſixth Day from the Attack :— She had from firſt to laſt an inexpreſſible Load at her Breaſt, with vaſt Anxiety, frequent Faintings, and a vaſtly quick, fluttering, ſmall Pulſe.

It is always a fatal Prognoſtic, when Spots and Hæmorrhages appear at the very Eruption of the Small-pox, and the Sick ſeldom, or never, ſurvive the ninth Day of the Diſeaſe; the Blood running into immediate Diſſolution and

Putrefaction. I am perſuaded, ſcarce one in a thouſand recovers under theſe dreadful Circumſtances; eſpecially if the Spots are very livid, black and numerous.—If any Thing is to be done in theſe deplorable Caſes, it muſt be by timely and duly adminiſtering *Acids*, the *Bark* and *Aſtringent Alexipharmacs*; which certainly have oftentimes exceeding good Effects in petechial Fevers attended with Hæmorrhages.—Dr. *Mead*, in his late elegant Treatiſe *De Variolis & Morbillis* *, hath given us Reaſon to hope for Succeſs by the Uſe of theſe Medicines in the bleeding and petechial Small-pox, and alſo the Method of exhibiting them.

This diſſolved State of Blood alſo often happens in putrid malignant Fevers, ariſing frequently from *Contagion*; but is ſometimes the mere Effect of a Fever ſeizing Perſons of an *acrimonious* State of the Blood and Humors, which is the Caſe of the *highly ſcorbutic*: The former acting in an analogous Manner to the Poiſon of the Viper on the Blood; the latter by the Power of the *ſaline Spicula* on the Blood-globules, which is now greatly encreaſed by the febrile Motion and Efferveſcence of the Blood. Thus an inflammatory Tumor in Perſons of a good, ſweet, ſound Conſtitution ſuppurates into a *kindly laudable Matter*; in a very ſharp State of Humors it turns either into a *gangre-*

* *Cap.* iii. *De variolarum curationibus.*

nous

nous Sanies, or *cancerous Ichor*. What the Action of animal Heat and Motion will do, on the Salts of the animal Humors, may be seen in the Caſe of thoſe that die of Famine: for take the ſoundeſt Perſon, and deprive him of all liquid and ſolid Aliment, the Salts become continually more and more acrimonious; till at length a Fever, Delirium, *&c.* are brought on by their great Irritation, which ſoon ends in univerſal Putrefaction and Death. — You may ſee how this Putreſcence of Humors advances by taking a *healthy Nurſe*, whoſe Milk, for ſome Hours after eating, is white, thin, ſweet, and grateful; let her faſt for ſixteen or eighteen Hours, it becomes thick, yellow, ſalt, and diſagreeable: Let her further abſtain for ſome few Hours longer, it turns of a much deeper yellow, nauſeous and even ſtinking; and all this much more ſo, if ſhe happens to labour under a Fever, a bloody Kind of Matter iſſuing inſtead of Milk. — If this happens to the moſt aceſcent and ſweeteſt Humor of the Body, what think you happens to the Bile, Lymph, *&c?*

Where the Heat and Attrition of the Blood are very conſiderable, its Putrefaction advances ſurpriſingly faſt. — It appears from * *Boerhaave*'s Experiment on a Dog, ſhut up in a hot Sugar-

* *Vide Boerhaavii Chem. Cap. de Igne, Experiment.* xx. *Coroll.* 16.

baker's Stove, that the whole Maſs of Humors was corrupted to ſo high a Degree, in a few Minutes, as to give off an inſupportable Stench; and ſo diſſolved, that the very *Saliva* became *bloody*; and ſo horribly offenſive, as to throw a ſtrong Man, concerned in the Experiment, into Faintings.

The animal Humors naturally run into Diſſolution and Putrefaction, unleſs prevented and corrected by daily Supplies of *aceſcent Aliment*; a Diet merely of Fleſh, Fiſh, Spices, and Water, will very ſoon bring on a putrid Fever.—*Bread* is not only the *Staff of Life*, as Nouriſhment, but as it alſo corrects, by its aceſcent Quality, the rank Juices of animal Flood.—The *Spaniſh* and *French Priſoners here*, by eating unuſual and immoderate Quantities of Fleſh, brought on ſuch dangerous Fevers as carried off vaſt Numbers of them.—They were ſo fond of it, that they died, as it were, with Fleſh in their Mouths frequently.

But thus much for the Generation of *alcaleſcent Acrimony* in the Blood: Let me add, that it ſeems to appear, from what is above ſaid, that, in ſome Caſes, the animal Salts are rendered actually alcaline, volatile, corroſive, and deſtructive of the Blood-globules, as well as the *minima Vaſcula*, while even Life ſubſiſts.—When the animal Oils are alſo highly exalted and rancid, they unite with theſe Salts, and

make

make a moſt deſtructive diſſolving *Sapo*, much of the Nature of putrid Bile, which corrodes and diſſolves all the Principles of Life.

Now, as, on the one Hand, an *acrimonious State* of Blood may be complicated with too tenſe rigid Fibres, and an *inflammatory Lentor*; ſo, on the other, it may conſiſt with a *thin diſſolved State* of Blood and *weak lax Fibres*.

Let us put Contagion for Acrimony, (for it acts in a like Manner, and eventually proves ſo) and we have the Caſes very juſtly exemplified in the Small-pox: Where the Diſeaſe is ſometimes attended with a very viſcid State of Blood, high inflammatory Fever, violent acute Pains, peripneumonic Symptoms, Phrenzy and the like: Sometimes on the contrary with a weak, diſſolved Blood, a low ſlow Pulſe, or a weak and quick one, nervous Symptoms, thin crude Urine, various and profuſe Hæmorrhages, little or no Pain, Swelling, Soreneſs, or the like. In the former Caſe the Fever runs too high, and burns up the Patient; in the latter there is not Fever enough to make a compleat Protruſion and Maturation of the Puſtules, but they remain ſeſſile, crude and undigeſted; whence at laſt the whole Maſs of Blood runs into a putrid corroſive *Ichor*, or a gangrenous *Sanies*.

Take another View of this Matter. — I have many Times known *pulmonic*, or *pleuro-peripneumonic* Fevers attack Perſons of a very thin acrid

State

State of Blood, which have been attended with a very conſiderable Degree of Inflammation.—This happens very frequently to ſcorbutic ſea-faring Perſons.

In the Years 1740 and 1745, Abundance of People were ſeized with Shivering, then great Heats, Fever and Difficulty of Breathing, importunate laborious Coughs, very acute darting Pains of the Breaſts, Sides and Back, and frequently alſo in the Head and Temples. They had oftentimes a very quick, hard Pulſe, but *concentrated* as it were; the Breath was very hot and offenſive, and the Matter they expectorated was ſometimes thin and crude, and ſometimes as yellow as Saffron; but much more commonly a thin, gleety bloody Matter, frequently very fœtid, and ſometimes ſo acrid as to cauſe a great Hoarſeneſs, and Soreneſs of the Wind-pipe and Throat, and ſometimes Excoriations of thoſe Parts. The Blood drawn from them was either of a darkiſh livid Colour, covered over with a lead-coloured or greeniſh thin Film, or ſometimes quite florid (particularly on the firſt Bleeding) but of a looſe, ſoft Conſiſtence when cold; the ſpecious Appearance often ſurpriſing the Surgeon, or Apothecary, who expected quite another Appearance of the Blood, conſidering the Symptoms. However in many of theſe Fevers, the Blood drawn was covered over with a pretty thick tough

Coat,

Coat, not of a whitiſh yellow Colour, as uſual in common pleuritic or pleuro-peripneumonic Blood, but of a Colour approaching to that of a *Cornelian Stone*, or a little more dilute than that of the common Jelly of *red Currants*. — This Colour of the *Buff* on Blood I conſtantly obſerve to be of ill Omen: I conjecture becauſe it indicates both a great Glutinoſity, and alſo a very great Quantity of acrid Salts in the Blood, which break its Globules, and put it into a putrid diſſolving State; for this Appearance ſeems to ariſe from the broken Globules inviſcated by the inflammatory Size. If a Portion of volatile-alcali Salt be mixed with the Blood of a Perſon in a high Pleuriſy, as it runs off from the Vein, the upper Part of the *Craſſamentum* will greatly reſemble that of the Blood, which I have juſt mentioned: And it is further remarkable, that the *Serum* of ſuch Kind of Blood hath very often a *bloody Tinge*, almoſt as high as *Burgundy Wine*; and ſo indeed frequently had the *Serum* of the other Kinds of Blood, tho' many Times it appeared only of a turbid yellow Colour. The Urine was commonly very high, and ſometimes dark-coloured with a Kind of lead-coloured Sediment; it was generally rendered in ſmall Quantities. Faint, uncertain, partial Sweats often attended, particularly about the Face and Head; although

many

many Times, towards the fatal Period, they were very profuſe and colliquative. Livid, or black Spots frequently appeared about the State of the Diſeaſe, and I think ſeldom, or never, failed of being the certain Harbingers of Death. The black and brown Thruſh, which alſo ſometimes broke out towards the Cloſe, were not of a much more favourable Prognoſtic. But an univerſal, burning, itching Raſh ſometimes terminated the Fever; and ſometimes it ended in an Eruption of very large, angry, ulcerating Puſtules on the Neck, Shoulders and Arms, but more eſpecially about the Noſe and Lips.

But of this Kind of peripneumonic Fever more hereafter, with the Method of treating it. —I ſhall only at preſent take Notice, that at the ſame Time when this malignant Peripneumony, if I may ſo call it, reigned in *Plymouth*, and its Neighbourhood, Pleuriſies, Peripneumonies, and Pleuro-peripneumonies were everywhere epidemic, and generally of the true inflammatory Kind, ariſing from the cold dry northerly and eaſterly Winds, which had for a long Time prevailed.— In theſe the Blood was very denſe and ſizy, and moſt commonly covered over with a very thick, white, or yellowiſh Buff; and the Sick bore the Loſs of Blood well and to Advantage, even to forty Ounces, or upwards ſometimes: Whereas the Blood, in

the

the *malignant pulmonic Fever, was as I have above deſcribed it*; and, when it was conſiderably buffy, it had the *above-mentioned Appearance*, and the Patients often ſunk ſurpriſingly after the firſt or ſecond Bleeding; ſometimes indeed to my great Concern and Aſtoniſhment; when, from the hard Pulſe, great Load at Breaſt, pungent Pain of the Side, and Severity of the Cough, I thought I had ſufficient Warranty for adviſing it.—Beſides, tho' *theſe latter* expectorated pretty large Quantities of crude and thin, or more frequently of a gleety bloody Matter, they were not at all relieved; whereas when the *former* ſpit off largely and freely, it was of the higheſt Advantage.

Now I muſt further take Notice, that, *cotemporary with both theſe Diſorders*, a *contagious, putrid, petechial Fever* was very rife in and about this *Town*; eſpecially among the Sailors and Priſoners, and thoſe that were very converſant with them; and it was chiefly among thoſe Sorts of Perſons, that the *malignant pulmonic Fever* raged.—So that this ſeemed to be a Complication of the common inflammatory Peripneumony with the contagious petechial Fever: the *contagious Effluvia* acting on the Blood in the Manner of *acrimonious Salts*, and deſtroying its *Craſis*.— It is certain we frequently meet with Peripneumonies of this Kind, merely from the ſharp acrid State of the Humors of thoſe that are ſeized with them.

Now

Now theſe are Fevers, in which an inflammatory Lentor is complicated with a great Degree of Acrimony, or blended with a Kind of poiſonous diſſolving *Effluvia.* — But we often meet with others, in which a very high Acrimony of the Humors is combined with a *too lax State* of the Veſſels, and too *looſely compacted Blood-globules*; which is the Caſe very commonly in petechial Fevers, eſpecially ſuch as are attended with Hæmorrhages.

I here beg Leave to give the Hiſtory of ſuch an one, which I think was the ſevereſt, that ever any Perſon ſuffered under, who ſurvived the Diſeaſe: — And the rather, as I ſhall ſpecify the Method of his Cure; which not only in his Caſe, but in ſeveral others of the like Nature, tho' not Degree, I have experienced to be highly beneficial; and which, I am perſuaded, is the only ſucceſsful Courſe that can be uſed in them, however different it may ſeem from the common Practice.

An eminent Surgeon of a neighbouring Town, of a thin and ſomewhat tender Conſtitution, but conſtantly uſed to Action and Exerciſe, and frequently ſubject to Fevers, and ſcorbutic Rheumatiſms, from taking Cold, *&c.* in *October* 1741, fell into a Kind of ſlow Fever, attended with ſlight Rigors, frequent Fluſhes of Heat, a quick weak Pulſe, Loſs of Strength and Appetite, with a great Load at his

Breaſt,

Breaſt, and a heavy Sort of Reſpiration.—Notwithſtanding this, he continued in his Buſineſs, conſtantly riding, and fatiguing himſelf for ſome four or five Days after this Seizure.—I met him at a Gentleman's Houſe, who was my Patient; and finding him as above, and that his Breath was, even then, very offenſive, I earneſtly deſired him to take timely and due Care of himſelf.— Two Days after, he, being at a Gentleman's in the Neighbourhood, was taken all on a ſudden with a very great Faintneſs, and fell off his Chair: Upon lifting him up the Company obſerved ſeveral livid and violet-coloured Spots on his Arms and Neck. It was with very great Difficulty they got him Home, tho' but two or three Miles Diſtance, he very frequently fainting by the Way.—The Diſorder encreaſed every Moment, he had a vaſt Langour with Pain and extream Oppreſſion on the Præcordia, and a perpetual Sighing; —his Breath now ſtank abominably, and a fœtid bloody Matter leaked continually from his Gums, and thouſands of livid, violet and black Spots appeared all over his Body, on the Trunk, as well as the Limbs.

He was bled to about ℥xii from his Arm, but this gave him no Manner of Relief, the Oppreſſion, Sighing, Fainting, and Anxiety continuing as bad as ever, nay rather encreaſing; — a violent Hæmorrhage alſo broke forth from

from his Noſe; which continuing from both Noſtrils, he was bled again to ℥x about twelve Hours after the former Bleeding: — neither did this give him any Relief, but encreaſed his Weakneſs conſiderably, and he continued as anxious, reſtleſs, and oppreſſed as ever, without even the leaſt Sleep. The Blood now not only iſſued from his Gums and Noſe, but he alſo coughed up Blood.— Indeed the Bleeding from his Noſe had ceaſed ſomewhat, but it encreaſed from his Gums, and in a ſurpriſing Manner Blood now likewiſe dropped, tho' ſlowly, from the Caruncle of one of his Eyes; and ſeveral livid Puſtules on his Tongue, and withinſide his Lips, broke, and diſcharged a bloody, thin Matter very copiouſly.

The Hæmorrhage being ſomewhat reſtrained, a bloody Dyſentery came on with ſevere Gripes, and exceſſive Faintneſs, and he was ſtill exceeding reſtleſs and very feveriſh: his Pulſe now intermitted every ſixth or eighth Pulſation, and then fluttered on again vaſtly quick; he had likewiſe a conſtant *Tremor* and *Subſultus*.—The Hæmorrhage all this while continued from one Part or other, and when ſtopped at one Place forthwith burſt out at another; ſo that his Urine now ſeemed tinged with Blood, being very dark-coloured, nay almoſt black. Soon after he was bled the ſecond Time, I was ſent for, and haſtened to him.—I found him in the Man-

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ner deſcribed, under an inexpreſſible Anxiety, yet quite free from a Delirium, though he had no Manner of Sleep for ſeveral Days and Nights: His Tongue was vaſtly black, and his Breath ſo inſufferably ſtinking, that it was greatly offenſive even at a conſiderable Diſtance; and his Stools were ſo horribly nauſeous and fœtid, that the very Nurſes fell into Vomitings and Faintneſs in carrying them off.

I found that neither of the Portions of the Blood that had been drawn (not even the firſt) had ſeparated into *Craſſamentum* and *Serum* as uſual, tho' the former had ſtood ſo many Hours; but continued as it were half coagulated, and of a bluiſh livid Colour on the Top:—it was moſt eaſily divided by the ſlighteſt Touch, and ſeemed a *purulent Sanies* rather than Blood, with a Kind of a *ſooty Powder* at Bottom. His Hæmorrhage ſtill continued, eſpecially from the Tongue, Lips and Gums, with a perpetual Dripping of thin bloody Ichor from his Noſe; ſo that he was reduced to an extream Degree of Weakneſs, with never-ceaſing Tremblings, *Subſultus Tendinum*, and almoſt continual Faintings.

What was to be done in this dreadful Caſe? Would the hot, alexipharmac, volatile Cordials and Bliſters have ſerved him, as ſome might have imagined, conſidering his extream Weakneſs, Faintings, Load on the Præcordia, Trem-

blings, *&c.* But would they not have been certainly *deleterious*, would they not have certainly killed him? as they would have added to the ſtimulating Acrimony, encreaſed the Fever, and further deſtroyed the *Craſis* of the Blood, already nearly quite diſſolved, and reduced to a Kind of *putrid Gore.*

I took it in this View, and, as I had experimentally and repeatedly known the great Uſe of the *Bark* * in preventing and ſtopping the Advance of Gangrenes, I gave him frequently of it in ſmall Doſes with *Elixir Vitrioli*, premiſing a ſmall Quanity of *Rhubarb*.—Beſides this he drank Tincture of Roſes, with Cinnamon Water, made very acid, and alſo a Decoction of *Sevil* Orange Rind, red Roſes, Cinnamon, and a little *Japan* Earth (as it is called) well acidulated; Claret, and red Port, with about half Water, he drank at Pleaſure.—As the *Bark* ſat eaſy with him, I continued its Uſe, and encreaſed its Quantity, giving with it ſome *Confect. Fracaſt. ſine melle* to reſtrain the dyſenteric Flux;—and yet I now and then interpoſed a ſmall Doſe of *Rhubarb*, to carry off any bloody, bilious, or ſanious Matter that might be lodged in, or leak into the Inteſtins. In the mean Time I ordered him to be

* Beſides I had formerly given the Bark with Succeſs in the malignant petechial Fever of 1735: *Vid. Obſ. de Aere et Morb. Ejidem. Menſe Maio.*

frequently

frequently ſupported with Rice, Panado, Sago, Jellies of Harts-horn well acidulated, Toaſt out of Claret, or red Port Wine; and I directed Fomentations of Aromatics and Aſtringents, boiled in red Wine, to be frequently applied to the whole Abdomen.

By this Method, ſteadily perſiſted in, was this poor Gentleman, thro' divine Goodneſs, raiſed from a State of univerſal Rottenneſs, as it were, to perfect Health: Not but that, for a very conſiderable Time after his Fever was quite gone off, he continued extreamly weak; and even after he was capable of walking abroad, the Hæmorrhage from his Noſe would return on the leaſt Occaſion, his Gums would bleed on the ſlighteſt Rubbing, and his Breath continued very offenſive for a long Time.—By the further Uſe of the *Cortex*, *Elix. Vitrioli*, &c. this alſo intirely ceaſed:—But his Legs and Feet continued very much ſwoln for a much longer Time, and his Fleſh all over the whole Body remained exceeding ſoft, tender, and ſore, ſcarce bearing the leaſt Touch.— Rhabarbarate Purges, eaſy ſtomachic Chalybeates, Elixir of Vitriol, *Pyrmont* Water with proper Diuretics, and gentle regular Exerciſe, at length carried off all thoſe Symptoms; and in about two or three Months he recovered a good State of Health, which he ſtill enjoys.

I met with ſeveral of theſe petechial Fevers, with Hæmorrhages, in the Summer and Autumn of 1745; particularly a Gentlewoman, of *Anthony* near *Plymouth*, was ſeized with ſuch a Fever, with Symptoms nearly reſembling thoſe in the above-mentioned Caſe, tho' not in ſo high a Degree.—She fell into an immenſe Diſcharge from the *Uterus*, tho' out of Seaſon, after a very profuſe Hæmorrhage from the Noſe; ſhe bled alſo from the Gums, and at laſt had a bloody Dyſentery: She had a ſtrong Phrenzy before the Bleeding from the Noſe came on, and had a vaſt Number of purple and black Spots all over her Body, ſome as large, at leaſt, as a Silver Penny.—I treated her exactly in the Manner aforeſaid, and ſhe happily recovered; tho' her Legs were greatly ſwoln after it, and ſhe continued in a long State of Weakneſs.—She was twice bled before I ſaw her;—the firſt Blood I ſaw not, but Mr. *Freke*, her Surgeon, told me it was very florid and rich (as he called it) but very ſoft, and gave off a very ſmall Quantity of a reddiſh *Serum*: I ſaw the ſecond, which was of a very dark black Colour, covered with a very thin, tender, greeniſh Skin.—Her Urine, during the whole Time of the Fever almoſt, was like white Wine, or Cyder, that ſtands long expoſed to the Air, and turns black; at length however a Kind of a dark-coloured mealy Sediment was depoſited.

The Fever, which attends Gangrenes, is commonly of this Kind, corrupting and diſſolving the Blood; the ſanious Matter of the gangrened Part, being reſorbed into the Maſs of Blood, produces an univerſal gangrenous Diſpoſition in the Humors, and diſſolves the ſound red Globules; whence Spots, Hæmorrhages, black Tongues, Delirium, *&c.* ſupervene. *Celſus* * juſtly obſerves that an acute Fever, Delirium, great Thirſt, and ſtinking Breath, accompany a Gangrene; all Signs of Corruption of the Blood and high Acrimony.—I will inſtance but in one Caſe, which, I think, is pretty uncommon in ſeveral Circumſtances.

Mrs. *Eliſabeth S—th* of St. *Germains in Cornwall*, about twenty-five, of a weak Conſtitution and bad Habit of Body, who never had any regular *Catamenia*, was taken at the latter End of *May*, 1742, with a Pain in the right Foot near the Toes and with a *Torpor* all over the Leg; which hourly encreaſing, ſhe ſent for Mr. *Dyer*, an ingenious Surgeon of *Looe*, who rubbed the Part with camphorated Spirit of Wine, and gave her ſome nervous and cordial Medicines.—This having no Effect, he fomented with a very warm aromatic Decoction, applying the *Magma* with Spirits, Theriaca, *&c.* to the Leg and Foot; notwithſtanding which

* *Lib. V. Cap.* 26.

the Parts grew ſoon diſcoloured, cold and quite inſenſible.—When I came, I ordered the Parts to be ſcarified, and that deeply, but not the leaſt Blood iſſued, only a few Drops of quite black Blood here and there ſlowly roſe up, of the Bigneſs of a Pea ;—the Skin and Fleſh looked as if the Leg had been cut off for ſome Days, tho' this was but in the Forenoon of the *fourth Day* from the very firſt Seizure.—There were no Veſications, nor did the Scarifications afterwards emit the leaſt Stench, Matter, or *Sanies*.—I immediately ordered her the *Bark* with *Elixir Vitriol. Confect. Ralegh.* and a warm acidulated Julep, which ſhe took freely, as ſhe was vaſtly faint.—A violent Pain ſeized her in the Afternoon in her right Thigh and Groin, and forthwith a Fever, ſevere Gripings, and a bloody Flux, came on, which preſently reduced her to the utmoſt Degree of Weakneſs, with perpetual Faintings and Agonies.

The enſuing Night ſhe grew very deliri-ous, her Tongue became quite black and faultering, her Pulſe exceeding quick, weak and fluttering, with continual Catchings of the Tendons and Tremors.—As the *Cortex* did not ſit well, but ran down, I gave her a ſtrong Tincture of it with *Decoct. Fracaſtor. Elix. Vitriol.* &c. which had a much better Effect.

In this miſerable Condition ſhe continued for three or four Days, every one about her hourly

hourly expecting her Death; however the *Sphacelation* did not advance, and never appeared above the Knee, tho' a very vehement Pain affected the whole Thigh, and ſeemed chiefly in the *Perioſteum* of the Bone.—At length there appeared a dark, livid *Streak* or *Line* all round the Limb, immediately under the Knee, and pointed out where Nature was diſpoſed to ſeparate the dead Part from the living. This Tendency to Separation became every Day more and more viſible, and the Surgeon uſed all proper Means to promote it: For whatever Foundation there might have been for an *Amputation*, neither ſhe, nor her Friends, would admit of it.—In theſe deplorable Circumſtances (the dead Part of the Limb daily rotting off from the ſound) ſhe continued till *July* the 14th; when the Surgeon, finding the *Slough* caſt off, and a Separation at the Joint almoſt perfectly made, took off with a Knife the dead Leg from the ſound Thigh, at the *very Articulation*, with very little Pain, without her Conſent, and almoſt without her Knowledge of it, when it was done.—Soon after this ſhe daily recovered, and by proper Diet, and Medicines, was in a little Time reſtored to a tolerable State of Health.

CHAP. VI.

Of the Difference between a ſlow nervous, and a putrid malignant Fever.

I Cannot conclude this Eſſay on Fevers, without taking Notice of the very great Difference there is between the *putrid malignant*, and the *ſlow nervous Fever*; the Want of which Diſtinction, I am fully perſuaded, hath been often productive of no ſmall Errors in Practice, as they reſemble one another in ſome Reſpects, tho' very eſſentially different in others.—And this I the rather do now, as I have not ſufficiently noted the Difference in my *Diſſertation de Febribus lentis & nervoſis*.—Nor do I know of any Author, that hath done it explicitly, beſides Dr. *Langriſh* in his *Modern Theory and Practice.*

By what hath been ſaid above, I think, it evidently appears, that in putrid malignant and petechial Fevers the *Blood, peculiarly ſo called*, is affected; whereas the ſlow nervous Fevers ſeem to have their Seat chiefly in the *lymphatic and nervous Juices.* Corruption of the Humors and Diſſolution of the Blood are in a high Degree obſervable in the former; but the ſlow nervous Fever frequently runs on to a great Length of Time, without any conſiderable Signs of Putrefaction.

Beſides,

Beſides, theſe two different Kinds of Fevers may be artificially produced, if I may ſo ſpeak, by too very different Kinds of Diet, Regimen, *&c.* and is too often actually effected. The hot, acrid, ſaline, volatile and ſpicy Food, and Medicines, very hot Air, *&c.* will produce a putrid malignant:—On the contrary, cold, watery, ſlimy, mucilaginous Things, as Cucumbers, Melons, crude traſhy Fruit, vapid Liquors, damp cold Air, *&c.* bring on ſlow nervous Fevers.

Could we ſuppoſe both the one and the other to ariſe from Contagion, (which is commonly the Caſe in peſtilential and petechial Fevers, and may ſometimes be ſo in the ſlow nervous) I ſhould liken the Action of the *morbific Effluvia* in the former, to that of the Poiſon of a Viper, which immediately affects and deſtroys the Texture of the Blood-globules, and brings on a very ſpeedy Corruption:—But in the latter to the *Virus* of a mad Dog, which works but ſlowly, and ſeems primarily to affect the *Lymph*, and *Succus nervoſus*, and manifeſts no Signs of Putridity, at leaſt till the very Cloſe of the Tragedy.

Now as theſe two Fevers have a very different Origin, they cannot but ſhew their Effects in different Symptoms, and require a very different Method of Cure;—and yet, I am very ſenſible, the one may be, and very often is, blend-

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ed with the other: I mean, that a very acrimonious State of Blood may ſubſiſt under a very weak relaxed Syſtem of Veſſels, and may not ſhew itſelf with ſo much Violence, as if the moving Powers and Veſſels were more ſtrong and elaſtic, and much more ſuſceptive of the *Stimulus* of the morbid, acrimonious Salts, *&c.* and of Courſe more ſlow in its Progreſs, tho' perhaps equally fatal.—The different antecedent State of the Fibres, and Powers of Nature, where Contagion is the proximate Cauſe of the Diſeaſe, both undoubtedly alter the Nature of the ſubſequent Fever very greatly.—By carefully deſcribing both theſe Fevers, their Nature and Difference will more fully appear.

CHAP. VII.

Of the ſlow nervous Fever.

I Begin with a Deſcription of the ſlow nervous Fever, which hath been very exactly taken from too many, who have fallen Victims to this inſidious and dangerous Enemy.

The Patient at firſt grows ſomewhat liſtleſs, and feels ſlight Chills and Shudders, with uncertain ſudden Fluſhes of Heat, and a Kind of Wearineſs all over, like what is felt after great Fatigue. This is always attended with a Sort of Heavineſs and Dejection of Spirit, and more or

leſs of a Load, Pain, or Giddineſs of the Head; a *Nauſea* and Diſreliſh of every Thing ſoon follows, without any conſiderable Thirſt, but frequently with urging to Vomit, tho' little but inſipid Phlegm is brought up.

Tho' a Kind of lucid Interval of ſeveral Hours ſometimes intervenes, yet the Symptoms return with Aggravation, eſpecially towards Night: The Head grows more heavy, or giddy, the Heats greater, the Pulſe quicker but weak, with an oppreſſive Kind of Breathing.—A great *Torpor*, or obtuſe Pain and Coldneſs affects the hinder Part of the Head frequently, and oftentimes a heavy Pain is felt on the Top all along the *coronary Suture*; this, and that of the back Part of the Head, generally attend nervous Fevers, and are commonly ſucceeded by ſome Degree of a Delirium.

In this Condition the Patient often continues for five or ſix Days, with a heavy pale ſunk Countenance, ſeeming not very ſick, and yet far from being well; reſtleſs, anxious, and commonly quite void of Sleep, tho' ſometimes very drowſy and heavy: but although he appears to thoſe about him actually to ſleep, he is utterly inſenſible of it, and denies that he doth ſo.

The Pulſe, during all this Time, is quick, weak and unequal, ſometimes fluttering, and ſometimes for a few Minutes ſlow, nay intermitting;

mitting; and then, with a ſudden Fluſh in the Face, immediately very quick, and perhaps ſoon after ſurpriſingly calm and equal; and thus alternately.—The Heats and Chills are as uncertain and unequal, ſometimes a ſudden Colour and Glow in the Cheeks, while the Tip of the Noſe and Ears is cold, and the Forehead at the ſame Time in a cold dewy Sweat.—Nay it is very common, that a high Colour and Heat appear in the Face, when the Extremities are quite cold.

The Urine is commonly pale, and often limpid, frequently of a Whey-colour, or like vapid Small-beer, in which there is either no Manner of Sediment, or a Kind of looſe Matter like Bran, irregularly ſcattered up and down in it.—The Tongue, at the Begining, is ſeldom or never dry or diſcoloured, but ſometimes covered with a thin whitiſh *Mucus*;—at length indeed it often appears very dry, red, and chapped, or of the Colour of Pomegranate Rind; but this moſtly at the State, or Cloſe of the Diſeaſe: yet, however dry the Tongue and Lips ſeem, the Patient ſcarce ever complains of Thirſt, tho', ſometimes of a Heat in the Tongue.

About the ſeventh or eighth Day the Giddineſs, Pain, or Heavineſs of the Head, become much greater, with a conſtant Noiſe in it, or *Tinnitus Aurium*, which is very diſturbing to

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the Sick, and frequently brings on a Delirium. The Load on the Præcordia, Anxiety and Faintneſs grow much more urgent, and they often fall into an actual *Deliquium*; eſpecially if they attempt to ſit up: Coldiſh Sweats ſuddenly come on in the Forehead, and on the Backs of the Hands (tho' at the ſame Time there is too much Heat in the Cheeks and the Palms) and as ſuddenly go off.—If the Urine now grows more pale and limpid, a Delirium is certainly to be expected with univerſal Tremors and *Subſultus Tendinum*; the Delirium is ſeldom violent, but as it were a Confuſion of Thought and Action, muttering continually to themſelves, and faultering in their Speech: Sometimes they awake only in a Hurry and Confuſion, and preſently recollect themſelves, but forthwith fall into a muttering, dozy State again.

The Tongue grows often very dry at the State, eſpecially in its middle Part, with a yellowiſh Liſt on each Side, and it trembles greatly when the Sick attempt to put it out.—When the Tongue at this Time grows more moiſt, and a copious Spitting comes on, it is always a very good Sign:—But where a Difficulty of ſwallowing, continual *Gulping*, or *Choaking* in the Throat ſupervene, it is a very dangerous Symptom, eſpecially if attended with any Degree of a *Singultus*.

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Frequently profuſe Sweats pour forth all at once about the ninth, tenth, or twelfth Day, commonly coldiſh and clammy on the Extremities; oftentimes very thin Stools are diſcharged; both the one and the other are generally colliquative and very weakening.—However a warm Moiſture of the Skin is generally ſalutary, and a gentle Diarrhœa frequently carries off the Delirium and comatoſe Diſpoſition.

Now Nature ſinks apace, the Extremities grow cold, the Nails pale or livid, the Pulſe may be ſaid to tremble and flutter rather than to beat, the Vibrations being ſo exceeding weak and quick, that they can ſcarce be diſtinguiſhed; tho' ſometimes they creep on ſurpriſingly ſlow, and very frequently intermit. The Sick become quite inſenſible and ſtupid, ſcarce affected with the loudeſt Noiſe, or the ſtrongeſt Light, tho' at the Begining ſtrangely ſuſceptive of the Impreſſions of either. The Delirium now ends in a profound *Coma*, and that ſoon in eternal Sleep.—The Stools, Urine, and Tears run off involuntarily, and denounce a ſpeedy Diſſolution, as the vaſt Tremblings and Twitching of the Nerves and Tendons are Preludes to a general Convulſion, which at once ſnaps off the Thread of Life.—In one or other of theſe Ways are the Sick carried off, after having languiſhed on for fourteen, eighteen,

teen, or twenty Days; nay, ſometimes much longer.

All Perſons grow deaf and ſtupid towards the End of the Diſeaſe (ſome extreamly deaf) tho' too quick and apprehenſive at the Beginning, inſomuch that the leaſt Noiſe, or Light, greatly offended them.—Many, from their immoderate Fears, ſeem to hurry themſelves out of Life, where little Danger was apparent at the Begining; nay ſeveral will not ſuffer themſelves to ſleep, from a vain Fear of dozing quite away; and others from the vaſt Hurry, Anxiety, and Confuſion, they are ſenſible of in it, or at their awaking.—Where the Deafneſs ends in an Impoſtume of the Ear, it is generally a good Symptom; and ſo it is alſo when a *Parotis* ſuppurates, or a large puſtular angry Eruption breaks out about the Lips and Noſe.

This is a Deſcription (tedious indeed, but pretty exact) of the ſlow nervous Fever in its moſt aggravated Circumſtances:—Wherein I have laid down the Symptoms in the Order in which they naturally come on;—and this I think ſhould be always obſerved in deſcribing any Diſeaſe.—It moſt commonly attacks Perſons of weak Nerves, a lax Habit of Body, and a poor thin Blood; thoſe who have ſuffered great Evacuations, a long Dejection of Spirits, immoderate Watchings, Studies, Fatigue,

tigue, and the like; and alſo thoſe, who have uſed much crude unwholeſome Food, vapid impure Drinks, or who have been confined long in damp, foul Air; that have broken the Vigor of their Conſtitutions by Salivations, too frequent Purging, immoderate Venery, &c.—Whence I think it is evident, this Diſeaſe ariſes from a too relaxed State of the Solids, a poor weak Blood, and a *Lentor and Vapidity of the lymphatic and nervous Juices*:—The very Method of Cure ſhews this, which conſiſts in mild, ſtimulating, attenuating, and proper cordial, ſtrengthening Diet and Medicines.—*Hippocrates* ſomewhere notes, that the ſucceſsful Method of Cure ſhews the Nature of the Diſeaſe.

Let us now therefore endeavour to ſhew the propereſt Method of curing this Fever.

It was another Maxim of the great *Hippocrates*, that whoever knows the Nature of the Diſeaſe, knows the Method of Cure *.—It is at leaſt the indiſpenſable Duty of every Phyſician, before he preſcribes for his Patient, to conſider well his Conſtitution, and the Nature of his Diſeaſe; for as *Celſus* elegantly ſays, *Æſtimatio cauſæ ſæpe morbum ſolvit* †.—And this is in no Caſe more neceſſary than in Fevers, in which the Time is ſhort, and Experiments dangerous: Where the Diſorder doth not attack with great Violence, it is better to wait a little, and ob-

* *Lib. de Arte ſub finem.* † *Celſi Præfat. ſub finem.*

ſerve

ſerve the Motions of Nature, than be too precipitant.——But it is rare, that Phyſicians are called in at the very Begining of ſlow Fevers: Indeed they are often too far advanced, 'ere they are conſulted.

From the Hiſtory of the ſlow nervous Fever I think it is very evident, that no great Evacuations are proper (eſpecially Bleeding) particularly in Perſons of originally weak and lax Conſtitutions, who are by far the moſt ſubject to it.—I have known a common Purge, injudiciouſly given at the Begining of this Fever, immediately followed by ſurpriſing Languors, *Syncope*, and a large Train of other ill Symptoms: However it may be neceſſary ſometimes, even at the Begining, to cleanſe the *primæ viæ* by a gentle Puke, a little *Rhubarb*, *Manna*, *&c*; if you give any Thing *draſtic*, be aſſured your Patient will rue for it, and you will repent it.—And here I cannot but obſerve, that a mild Vomit may be given with much leſs Ruffle to Nature than a common Purge, and indeed is uſeful, nay neceſſary, where Nauſea, Load and Sickneſs at Stomach are urgent; which frequently happen at the Attack of this Fever: — Clyſters of Milk, Sugar, and Salt, may be injected with Safety and Advantage every ſecond or third Day, if Nature wants to be prompted to ſtool.

The temperate, cordial, diaphoretic Medicines are certainly moſt proper in theſe Fevers; and a well regulated, ſupporting, diluting Diet is neceſſary: The latter of itſelf, judiciouſly managed, will go a great Way in the Cure, eſpecially aſſiſted by well timed and well applied Bliſters, and a due Care to keep the Patient as quiet as poſſible, both in Body and Mind. But it ſhould be noted, that any ſtrong *Opiates* are commonly very pernicious, however Want of Sleep and great Reſtleſſneſs may ſeem to demand them.—Mild Diaphoretics, as *Pulv. Contrayerv. comp.* with a little Caſtor and Saffron, and ſmall Quantities of *Theriac. Andromach.* or *Elixir Paregoricum*, have much better Effects: which, by raiſing a gentle eaſy Sweat, or at leaſt a plentiful Perſpiration, calm the Hurry and Tumult of the Blood and Spirits, whence ſoft refreſhing Slumber ſucceeds. Where the Confuſion and Dejection of Spirits are very conſiderable, *Galbanum*, or *Silphium*, with a little Camphire ſhould be added; and Bliſters ſhould be forthwith applied to the Neck, *Occiput*, or behind the Ears: and during all this a free Uſe of thin Wine-whey, ſome pleaſant Ptiſan, or Gruel, with a little ſoft Wine, muſt be indulged. Indeed the Patients, in this Caſe, ſhould drink frequently: though ſuch Quantities may not be neceſſary as in the ardent, or even putrid malignant Fevers;

vers; yet they ſhould be ſufficient to carry on the Work of Dilution, ſupport the Sweats, and ſupply the Blood with freſh and wholeſome Fluids, in lieu of the vapid, acrid *Latex*, that is continually paſſing off.—And I think in this View a thin Chicken Broth alſo is of Service, both as Food and Phyſic, eſpecially towards the Decline of the Diſorder; and for the ſame Reaſon thin Jellies of Hart's-Horn, Sago, Panado, are uſeful, adding a little Wine to them, and the Juice of Sevile orange, or Lemon.

It is obſervable, the Sick are never ſo eaſy, as whilſt they are in a gentle eaſy Sweat; for this ſoon removes the Exacerbations of Heat, Hurry, *&c.*— But profuſe Sweats ſhould never be encouraged, much leſs attempted by very ſtrong heating Medicines, volatile alcalious Salts, Spirits, *&c*; eſpecially in the Begining, or Advance of the Fever; for they too much exhauſt the *Liquidum vitale*, and are followed by a vaſt Dejection of Spirits, Tremors, Startings of the Tendons, and ſometimes end in *Rigors*, cold clammy Sweats, *Syncope*, or a comatoſe Diſpoſition.—Sometimes irregular, partial Heats and Fluſhes ſucceed, with great Anxiety, Reſtleſſneſs, Delirium, Difficulty of Breathing, and a vaſt Load and Oppreſſion on the *Præcordia*; ſo as to incline the leſs cautious Obſerver to think there may be ſomething peripneumonic

ripneumonic in it: — but even here beware of Bleeding, for you will find the Pulſe very ſmall and unequal, though very quick: Not only the Weakneſs and Fluttering of the Pulſe contraindicate Bleeding, but alſo the pale, watery, limpid Urine, which is commonly attendant. Theſe Symptoms denote the Load, Anxiety, and Oppreſſion on the *Præcordia* to be from the nervous *Orgaſm*, not from a peripneumonic Obſtruction, or Inflammation: The Breathing in this Caſe, though thick and laborious, is not hot, but a Kind of a ſighing, or ſobbing Reſpiration, nor is there many Times any Kind of Cough concomitant; ſo that this is really from ſome Degree of Spaſm on the Vitals, not from Inflammation.—And this is very manifeſt in hyſteric Paroxyſms.

Here therefore the nervous cordial Medicines are indicated, and Bliſters to the Thighs, Legs, or Arms.—I commonly uſe the following *Bolus* and *Saline Draught*.

℞ *Pulv. Contrayerv. c. gr.* xv. * *Croc. Anglic. gr.* iii. *Confect. Ralegh.* ℈i *Syr. Croci q. ſ. m. f. Bolus.*

℞ *Sal.* C. C. ℈ſs. *Succ. Limon.* ʒiii. *Aq. alexet. ſimpl* ʒiſs. *m. peractâ effervescentiâ adde Sp. Lavend. c. Syr. Croci ana* ʒiſs. *m. f. Hauſt.*

* *When vaſt Tremors and Subſultus Tendinum come on, I uſe Muſk* ℈ſs *inſtead of the* Pulv. Contrayerv. *c. with great Succeſs.*

Theſe,

Theſe, or the like, I order every 5th, 6th, or 8th Hour, and a temperate cordial Julep; *Spiritus volatilis aromat.* or *fætidus* may be now and then given out of thin Wine, or Cyder-whey, or, which is in many Caſes better, out of thin Muſtard-whey; which, without any more pompous *Apparatus*, is not a contemptible Medicine, eſpecially for the Poor. Theſe gently ſtimulate the torpid Veſſels, and raiſe their oſcillatory Powers; they attenuate the Humors and dilute them, and by theſe Means promote eaſy relieving Sweats, which ſoon carry off the *Erethiſm*, as the Ancients called it.— The Saline Draught, prepared as above, is much more apt to paſs by the Pores of the Skin than when made with Salt of Wormwood, which rather moves through the urinary Paſſages.—When I aſſert, from repeated Experience, the Uſe of the above deſcribed Draught in aſthmatic Caſes, any one may eaſily judge of its Efficacy in theſe.

But to return, this Difficulty of Breathing, Anxiety and Oppreſſion, many Times precede a *miliary Eruption*, which often appears the ſeventh, ninth, or eleventh Day of this Fever, and ſometimes later: — Indeed great Anxiety and Oppreſſion on the *Præcordia* always precede puſtular Eruptions of any Kind, in all Sorts of Fevers.— Every one muſt know how ill-timed and improper Bleeding would be on ſuch an Occaſion, when the greateſt Care ſhould

be taken not to retard Nature's Operation in this particular, which is many Times compleatly critical: On the contrary, it ſhould be promoted by ſoft, eaſy Cordials, proper Diluents, and the like; and to theſe ſometimes a little *Theriaca Andromachi*, or *Elixir Aſthmaticum*, ſhould be added; which not only tend to calm the univerſal Uneaſineſs commonly complained of, but alſo very effectually promote a *Diaphoreſis*, or breathing kindly Sweats, with which the miliary Eruptions freely and eaſily advance.

But however advantageous theſe commonly are, profuſe Sweats are ſeldom or never ſo, even though attended with a very large Eruption; for I have known two or three Crops of miliary Puſtules ſucceed one another, and large Sweats, long continued, with no Manner of Relief to the Patients; nay of very great Detriment, as they reduced them to an extream Degree of Weakneſs. — In Truth theſe large Sweats are much more commonly *ſymptomatical* than critical, and the conſequent Eruption is very often the mere *Symptom* of a *Symptom*; for the miliary Glands of the Skin appear very turgid, and *mimic a Raſh* upon profuſe Sweating, even in the moſt healthy.

In ſuch profuſe, colliquative Sweats, I have very frequently given a little generous red Wine, (diluted ſomewhat, if neceſſary) with the greateſt Advantage; it preſently moderating

ting the Sweat, ſupporting the Patient, and keeping up alſo the miliary *Papulæ*, if they happen likewiſe to attend. — *Celſus* adviſes *Vinum auſterum meraculum in morbo cardiaco* *, which I take to have been a Species of nervous Fever with colliquative Sweats.— Towards the Decline of the Fever, where the Sweats are abundant and weakening, I moreover give ſmall Doſes of the Tincture of the Bark with Saffron and Snake Root, hereafter deſcribed, interpoſing now and then a Doſe of Rhubarb to carry off the putrid *Colluvies*, in the firſt Paſſages; which withal makes the *Remiſſions*, or *Intermiſſions*, which frequently happen in the Decline of nervous Fevers, more diſtinct and manifeſt, and gives a fairer Opportunity for Preparations of the *Bark*. — I generally give it, about this Time, out of the ſaline Draughts made with Salt of Wormwood and Juice of Lemons, which makes them much more effectual. I am perſuaded this Method will ſhorten theſe Fevers, even thoſe with miliary Eruptions, which too often run on to an exceeding great Length, and are frequently attended with dangerous Relapſes.—I have more than once known Patients ſink under this Fever, after having been kept in a ſweating Method for five or ſix Weeks together, and after having gone thro' three or four ſucceſſive Crops of miliary Erup-

* *Lib. III. Cap.* 19.

tions (as they were called) they all the while melting away, and weltering in their own Sweat, and the Bed rotting under them.

Though a gentle Diarrhœa is ſometimes of manifeſt Service towards the End of this Fever, crude, thin, colliquative Stools are very far from being ſo, but ſink the Sick ſurpriſingly faſt: Where they are livid, or of a Kind of lead Colour, whatever be the Conſiſtence, it is a dangerous Appearance.

There is no Evacuation of a more favourable Portent than a pretty free Salivation, without *Aphthæ*; where this happens, with a kindly Moiſture of the Skin, I never deſpair of my Patient, however weak and ſtupid he may ſeem: — Indeed the Deafneſs many Times makes the Sick, at the Cloſe of the Diſtemper, appear much leſs ſenſible than they really are; not but that many, under theſe Circumſtances, eſcaping the Grave, degenerate into mere Idiots.

Under any of theſe Evacuations plentiful, ſupporting, diluting Nouriſhment is abſolutely neceſſary to keep up the Spirits, and repair the Loſs of the daily waſting Juices, and mend the remaining: Indeed, when the Patients are too heavy and ſtupid, they ſhould be very frequently prompted to it; for it is even altogether as neceſſary as Medicine.

We have very ſeldom any Thing compleatly critical in this Fever; in many Caſes only Time itſelf ſeems to wear it off. The Urine is ſcarce ever concocted, but crude, pale and thin thro' the whole Courſe of the Diſorder, and frequently much too profuſe; ſometimes indeed, after the Exacerbations, or in the Sweats, it is higher coloured, but without Sediment, ſmall in Quantity, and commonly greaſy as it were.

It ſeems to me evident, that too great a Lentor of the lymphatic and moſt exalted Juices of the Body, is one of the conjunct Cauſes of ſlow nervous Fevers; and I conceive, that as the *Serum*, when once coagulated by feveriſh Heat, never reſolves into any Fluid fit for the Uſes of the animal *Œconomy*, but turns into an acrimonious *Putrilage*; ſo the ropy, ſtagnant Lymph corrupts by Degrees into a putrid *Ichor*, which muſt be diſcharged from the Body by its common Outlets, or ſome artificial Drains. Though the Pores of the Skin, and the ſalival Ducts, are found in general to be the moſt advantageous Ways; yet it often partly runs off alſo by the Inteſtins and urinary Paſſages.—Now though theſe Diſcharges are many Times very profuſe, it is found by Experience, they are not to be too haſtily ſuppreſſed, without cauſing a very dangerous Tranſlation of the morbid Matter on the vital Parts: A ſudden Check of the Sweats being

moſt

moſt commonly attended with convulſive Rigors, vaſt Uneaſineſs and Oppreſſion on the *Præcordia*, *Syncope*, &c ; — as *Nauſea*, Sickneſs at Stomach, Colics, and a Delirium are the common Effects of potent Aſtringents prematurely adminiſtered.——Nay the Bliſters in this Caſe are not to be haſtily dried up; the more they diſcharge generally ſo much the better; and even if they ulcerate ſomewhat, it is commonly no unfavourable Symptom; for though it may ſhew the Acrimony of the Humor drained off, it is a Proof that Nature hath Strength enough to expel it : — So that, when the firſt Bliſters begin to heal up, others ſhould be applied to other Parts; for it is not merely from the *Stimulus*, but alſo from the Drain they make, that they are ſerviceable.—— The large angry Puſtules, that often break forth at or after the State of this Fever, and frequently ulcerate and run largely, are a Kind of natural Bliſters, which give Vent to the putrid corroſive *Ichor*, and ſufficiently indicate one Way of giving Nature Relief.

Upon the whole then, where any of theſe Diſcharges are very immoderate, they may be prudently reſtrained, but not repelled: and therefore cold Air, cold Linnen, cold Liquors, or a cold Regimen, are greatly improper. — And yet to be always labouring by very hot Cordials, volatile alcalious Salts, and very hot

Air

Air to raiſe Sweats, and to continue them, is really melting, not mending your Patient. And as to a vaſt Number, and repeated Eruptions, of the *white and red miliary Pimples*, they not only ſhew the Quantity of the Diſeaſe (as we call it) but many Times alſo the wrong Meaſures of the Phyſician. Do we ſucceed the better for throwing out a vaſt Number of the Small-pox by a very hot Regimen? And yet the latter bids much fairer for a compleatly critical Diſcharge than the former.— And I appeal to all experienced Phyſicians, whether ever they ſaw large and profuſe Sweats of any Service in the Small-pox, or Meaſles: I am ſure I have very many Times found them highly detrimental.

I have been the larger on this Head, as I am fully perſuaded, the common Method of treating miliary Fevers by very hot, ſweating Medicines, and Regimen hath been the Bane of Thouſands.— In a Word, whether in miliary Fevers, or the ſlow nervous without Eruptions, the ſole End of Medicine ſhould be to aſſiſt Nature in her Operations, and ſupport her under them; but in ſuch Manner as may comport with the general Laws of the animal Œconomy; promoting by Art, where the Diſcharges are deficient by Nature, or reſtraining when profuſe and inordinate; taking Care at the ſame Time never to pervert, in any par-

ticular

ticular Diſeaſe, any particular *Criſis*, which by juſt Obſervation, and long Experience, hath been found regular, conſtant and ſalutary, but always to favour it.—Thus, to give an Inſtance in the Fever now treated of; when a *Diarrhœa* happens too profuſe, it may be reſtrained by a gentle cordial Opiate, as *Theriaca Andromachi*, or the like, which by quieting the Irritation, and promoting the cuticular Diſcharge, moderates the Flux; for gentle, eaſy breathing Sweats are always found advantageous. — To ſtop it at once, by very ſtrong Aſtringents, is to pervert Nature's Endeavours, as they tend to prevent both Stool and Sweat. — But whoever will be more fully informed of the Method of treating the ſlow nervous Fevers, may conſult a late judicious Treatiſe of Sir *Richard Manningham* on the *Febricula*, &c.

CHAP. VIII.

Of putrid, malignant, petechial Fevers.

LET us next take a View of the putrid, malignant, or peſtilential, petechial Fevers, and then proceed to offer ſome few Directions as to the Method of Cure.

The highly putrid, malignant, and even petechial Fevers many Times ariſe from mere antecedent Acrimony of the Blood, agitated by

by the ſupervening Fever, yet generally the peſtilential and petechial have their Origin from Contagion; and may therefore affect Perſons of all Conſtitutions, which will of Courſe produce a great Diverſity in the Symptoms. — For, as the received Contagion acts nearly in the ſame Manner as Acrimony, it will have very different Effects, when it invades a ſtrong vigorous Conſtitution, and a rich ſizy Blood, from what it will, when it attacks a weak, lax Habit with a poor thin Blood, and a too looſe *Craſis* of its Globules; and from one and the other, when it falls in with a very acrimonious Maſs of Humors.

In general however theſe Fevers attack with much more Violence than the ſlow nervous, the *Rigors*, if any, are greater (ſometimes they are very great) the Heats much ſharper and permanent, yet at firſt ſudden, tranſient and remittent: The Pulſe more tenſe or hard, but commonly quick and ſmall, though ſometimes ſlow and ſeemingly regular for a Time, and then fluttering and unequal. — The Head-ach, Giddineſs, *Nauſea* and Vomiting are much more conſiderable, even from the very Begining. — Sometimes a ſevere fixed Pain is felt in one or both Temples, or over one or both Eyebrows, frequently in the Bottom of the Orbit of the Eyes. — The Eyes always appear very full, heavy, yellowiſh, and very often a little

inflamed. The Countenance ſeems bloated and more dead-coloured than uſual.—Commonly the temporal Arteries throb much, and a *Tinnitus Aurium* is very troubleſome: A ſtrong Vibration alſo of the carotid Arteries comes on frequently, in the Advance of the Fever, tho' the Pulſe at the Wriſt may be ſmall, nay even ſlow: This is a certain Sign of an impending Delirium, and generally proceeds from ſome conſiderable Obſtructions in the Brain.

The Proſtration of Spirits, Weakneſs and Faintneſs are very often ſurpriſingly great and ſudden, tho' no inordinate Evacuation happens; and this too ſometimes when the Pulſe ſeems tolerably ſtrong.—The Reſpiration is moſt commonly laborious, and interrupted with a Kind of Sighing, or Sobbing, and the Breath is hot and offenſive.

Few or none of theſe Fevers are without a Sort of *Lumbago*, or Pain in the Back and Loins; always an univerſal Wearineſs, or Soreneſs is felt, and often much Pain in the Limbs.—Sometimes a great Heat, Load and Pain affect the Pit of the Stomach, with perpetual Vomiting of *porraceous*, or *black Choler*, and a moſt troubleſome *Singultus*; the Matter diſcharged is frequently of a very nauſeous Smell.

The Tongue, tho' only white at the Beginning, grows daily more dark and dry; ſometimes of a ſhining livid Colour, with a Kind

of

of dark Bubble at the Top; ſometimes exceeding black; and ſo continues for many Days together; nor is the *Tinge* to be got off many Times for ſeveral Days, even after a favourable Criſis: At the Highth of the Diſeaſe it generally becomes vaſtly dry, ſtiff and black, or of a dark Pomegranate Colour.—Hence the Speech is very inarticulate, and ſcarce intelligible.

The Thirſt, in the Augment of the Fever, is commonly very great, ſometimes unquenchable; and yet no Kind of Drink pleaſes, but all ſeem bitter and mawkiſh: at other Times however, one is amazed to find no Thirſt complained of, tho' the Mouth and Tongue are exceedingly foul and dry; this is always a dangerous Symptom, and ends in a Phrenzy, or Coma.—The Lips, and Teeth, eſpecially near the State, are furred up with a very black tenacious *Sordes.*

At the Onſet of the Fever the Urine is often crude, pale and vapid, but grows much higher coloured in the Advance, and frequently reſembles a ſtrong *Lixivium*, or *citrine Urine tinged* with a very ſmall Quantity of *Blood*; it is without the leaſt Sediment, or even Cloud, and ſo continues for many Days together: by Degrees it grows darker, like dead, ſtrong, high-coloured Beer, and ſmells very rank and offenſive.—I have frequently ſeen the Urine, in petechial

Fevers, almoſt black, and very fœtid; particularly that of one Mr. *Shirley*, a Sea-Surgeon, was almoſt quite black, with a Sediment as dark as Soot: He had Abundance of very black Spots, *Vibices*, bloody Dyſentery, and comatoſe Phrenzy, and died about the thirteenth Day.

The Stools, eſpecially near the State, or in the Decline of the Fever, are for the moſt Part intolerably ſtinking, green, livid, or black, frequently with ſevere Gripes and Blood.— When they are more yellow, or brown, the leſs Danger; but the higheſt, when they run off inſenſibly of whatever Colour. It is likewiſe a very bad Symptom, when the Belly continues hard, ſwoln, and tenſe after profuſe Stools; for this is generally the Conſequence of an Inflammation, or Mortification of the Inteſtins. — A gentle Diarrhœa is often very beneficial, and ſometimes ſeems the only Way Nature takes to carry off the morbific Matter.

When black, livid, dun, or greeniſh Spots appear, no one doubts of the Malignity; the more florid however the Spots are, the leſs is to be feared; it is a good Sign, when the black, or violet *Petechiæ* become of a brighter Colour:—The large black, or livid Spots are almoſt always attended with profuſe Hæmorrhages. — The ſmall duſky brown *Spots*, like *Freckles*, are not much leſs dangerous than the livid and black; tho' Fluxes of Blood do but

ſeldom

ſeldom accompany them: Exceſſively profuſe, cold, clammy Sweats are often concomitant, by which alſo they ſometimes vaniſh, tho' without any Advantage to the Patient.—The Eruption of the *Petechiæ* is uncertain, ſometimes they appear the fourth or fifth, ſometimes not till the eleventh, or even later.—The *Vibices*, or large livid, or dark greeniſh Marks, ſeldom appear till very near the fatal Period.—We frequently meet with an Efflorescence alſo, like the Meaſles, in malignant Fevers, but of a more dull and lurid Hue, in which the Skin, eſpecially on the Breaſt, appears as it were marbled, or variegated: This in general is an ill Symptom, and I have often ſeen it attended with very fatal Conſequences.

Sometimes about the eleventh or fourteenth Day, on the Coming on of profuſe Sweats, the *Petechiæ* diſappear, and vaſt Quantities of ſmall, *white*, *miliary Puſtules*, break out: I have ſeldom ſeen this of very conſiderable Advantage; but, if an itching, ſmarting, *red Raſh*, it commonly greatly relieves the Sick; and ſo do the large, fretting, watery Bladders, which many Times riſe up on the Back, Breaſt, Shoulders, *&c.* A *ſcabby Eruption* likewiſe, about the Lips and Noſe, is certainly one of the ſalutary Symptoms; and the more hot and angry, it is ſo much the better.—But of much more uncertain and dangerous Event are the brown

dark-coloured *Aphthæ*; nor are thoſe that are exceeding white, and thick like *Lard*, of a very promiſing Aſpect.—They are ſoon ſucceeded by great Difficulty of ſwallowing, Pain and Ulceration of the *Fauces*, *Œſophagus*, &c. and with an inceſſant *Singultus*: The whole *primæ Viæ* become at laſt affected, a bloody Dyſentery comes on, followed by a Sphacelation of the Inteſtins; as is evident from the black, ſanious bloody Stools, horribly fœtid, and extreamly infectious.

Vibices, or large black and bluiſh Marks reſembling Bruiſes, are frequently ſeen towards the Cloſe of the Fever; and, when attended with Lividity and Coldneſs of the Extremities, are certain Tokens of approaching Death: I have ſeen the Blackneſs reach almoſt to the very Elbows, and the Hands dead-cold for a Day or two before the Death of the Patient.—— A remarkable Inſtance of this Kind I met with ſome few Years ſince in one Mrs. *Hopkins*, to whom I was called the ſeventh Day of her Illneſs. She was ſtupid and ſomewhat delirious, perpetually ſighing, as if under the Extremity of Grief, and complaining of infinite Load and Oppreſſion at her Heart. She had a very quick, ſmall, trembling, unequal Pulſe, and a ſhort, catching, laborious Breathing; ſhe had had no Manner of Sleep for a long Time, and yet lay very ſtupid; ſhe had no great Heat, tho' inſa-

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ſtably thirſty; the Tongue was not very dry but blackiſh, her Throat was ſomewhat ſore, and ſhe ſwallowed with Difficulty: Her Eyes were ſtaring, fixed and inflamed.—The eighth Day ſhe had exceeding profuſe Sweats, her Tongue grew quite black, or rather livid, and extreamly dry: In the Evening the *Catamenia* broke forth and became very immoderate, (ſhe was a Nurſe, and this was the firſt Time they appeared ſince her Delivery) the Sweats continued, and were of a very ill Smell. The ninth they diſcovered *Vibices*, or large black Spots on ſeveral Parts of her Body, one in particular on the Top of her Noſe, and another on the Bridge of it, which turned quite black, as did a large Blotch on each Cheek nearly of the Breadth of a Crown-piece.—The tenth the *Catamenia* ceaſed, ſhe fell into a violent Purging, her Belly ſwelled exceedingly: Her Nails and Hands grew very black, and as cold as Marble: The Urine and Stool ran off involuntarily, ſhe lay altogether inſenſible till the eleventh Day, and then died. —An intolerable Stench aroſe from her at leaſt forty Hours before her Death, tho' kept clean with all poſſible Care.

I am very ſenſible, the Word *malignant*, as applied to Fevers, hath of late Years fallen into very great Diſrepute, and probably it hath been often made Uſe of to cover Ignorance, or magnify a Cure.—But there is really a Founda-

tion in Nature for ſuch an Appellation, at leaſt for ſome Word, that may diſtinguiſh ſuch a Diſeaſe, as I have been now deſcribing, from a common inflammatory Fever; indeed the very Term *inflammatory Fever* ſuppoſes there are other Kinds of Fevers.—It is perhaps indifferent whether you call them putrid, malignant, or peſtilential;—when *Petechiæ* appear, every one calls them ſpotted or petechial,—and, if from Contagion, contagious.—I will contend with nobody about Words, but it is neceſſary we ſhould have ſome to communicate our Ideas, and, where they are well defined, no one hath great Reaſon to quarrel with them.

I have the utmoſt Honour for the Memory of the great *Sydenham*; and yet, I muſt ſay, had he not treated all Fevers as merely inflammatory, even the Plague itſelf, his Practice had been more univerſally juſt and imitable, as being extreamly well adapted to thoſe, that depend on an inflammatory Lentor.—But ſurely it is not always to be followed, even in the Small-pox, which in general he hath admirably well deſcribed and moſt judiciouſly treated.—Without all Doubt there are Fevers, that require ſomething more than the Lancet, ſmall Beer and a Purge. Is the low nervous Fever to be treated ſo? Are ſome Kinds of Small-pox and petechial Fevers, the miliary, *&c.* to be

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ſo managed? I appeal to all experienced and rational Practitioners.—But Honour to whom Honour is due: He juſtly oppoſed and exploded the hot, ſweating, firey Regimen, which was then commonly uſed in all Kinds of Fevers, and introduced proper Evacuations, and the cooling diluting temperate Regimen: A Method moſt certainly right in all Kinds of inflammatory and ardent Fevers.—Yet mere Evacuations, and cold watery Diluters will not indifferently ſuit all Sorts of Conſtitutions and Fevers.—But Oppoſition is commonly carried too far, and a favourite Notion may ſometimes lead one to *extinguiſh almoſt the vital Flame*, and *another* to fire the Fabric, leſt the *deleterious Miaſmata* ſhould make a Lodgment in it.

If a Fever be an Effort of Nature to throw off ſome offending, or morbid Matter, as moſt certainly it is, ſurely it will not be always proper to check it.—The hot Fit of a Tertian, by attenuating the Lentor of the Humors, and removing the Obſtructions in the Extremities of the capillary Arteries, terminates the Paroxyſm.—Improper Bleeding and Purging often protract it greatly, and make it both anomalous and dangerous.—When the Contagion of the Small pox is received into the Blood, it produces a Fever, which in a mild Kind of them ſoon ends in a compleat Eruption, and thence ceaſes; the Fever, or the Effort of Na-

ture, having expelled the morbific Matter.—But many Times from profuſe Evacuations, immoderate Fear, Sinking of the Spirits, and improper Management, ſhe hath not ſufficient Vigor to expel the Diſeaſe by a proper *Criſis*; but the Puſtules are pale, wan, feſſile, and remain crude and without any regular Maturation.—And this often is the Caſe in other eruptive Fevers, even the Plague itſelf.

The Reaſon we have to bleed therefore, in the Begining of ſuch Fevers, is to prevent the Fever from running too high, and producing Inflammations of the Brain, Lungs, or other vital Parts; which a great Fulneſs of rich, denſe Blood, violently moved and heated, is very apt to bring on.—In Truth Bleeding in a contagious Diſeaſe, as ariſing merely from Contagion, ſeems not indicated; becauſe the Contagion is intimately mixed with the Humors, and, by drawing off a ſmall Part of the Blood, you very little leſſen the whole Contagion, which will have its Effect, more or leſs, whether you bleed, or bleed not.—And we find, by the Experiment of Inoculation, that the leaſt Quantity of the variolous Matter, introduced into the Blood, will produce the Small-pox: And we ſee the ſame in other Caſes, whether the Bite of a Viper, or mad Dog; in the latter of which, by the bye, a ſmall Wound is generally found worſe

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than a large lacerated one; becauſe this gives a more free Vent again to the Poiſon.

When you have intimately mixed any Ferment with a Liquor to be fermented, you cannot deſtroy the Fermentation by drawing off Part of the Liquor; for every Part of the Liquor, when in Fermentation, is a Ferment; ſo Contagion received into the Blood operates on, and in, every Part of it.——By cooling indeed, adding Acids, *&c.* you may moderate the Fermentation; and, when it is too violent, you may prevent the Splitting of the Veſſel (if too full and cloſe ſhut) by giving proper Vent: So in contagious Fevers, by drawing off Blood you may leſſen its Quantity, and prevent it from over-diſtending, inflaming and rending the Veſſels, and leſſen the Heat: which might otherwiſe very greatly augment the Force of the Contagion, and turn the whole Maſs of Humors into a mere inflammatory Glew.——But if, to carry on the *Simile*, you cool the fermenting Liquor too much, and prematurely ſuppreſs the Fermentation, you render the whole vapid and ropy, and it never purifies itſelf by a proper *Deſpumation*, or becomes a good, vinous Liquor.—Thus when Contagion is received, if you weaken the Powers of Nature too much by Bleeding, *&c.* and hinder her Operations in *deſpumating* (as *Sydenham* calls it) the morbid Humors; you concentrate the Diſeaſe, which

turns the whole Mafs of Blood into a putrid *Ichor*, or *Sanies*.—However, as Bleeding may leſſen the Fewel, tho' it doth not extinguiſh the contagious Fire, it is highly proper where there is a Redundance of Blood.—But yet the Infection will have its Effect; and I have ſeen as numerous, and as bad a Kind of Small-pox, after profuſe Bleeding, as ever I did when it had been omitted.—It is certain moreover that the Plague, which ſtands firſt in the Liſt of contagious Fevers, will very ſeldom bear Bleeding, to any Degree at leaſt, as appears from the very beſt Authorities.

But let us finiſh this Chapter with a few Words on the curative Intentions, proper in the Fevers, which it particularly treats of.—And here firſt let me note, that tho' malignant and peſtilential Fevers, at the very Onſet, greatly ſink the Spirits, and cauſe ſurpriſing and ſudden Weakneſs, eſpecially when from Contagion; yet Bleeding to ſome Degree is moſt commonly requiſite, (nay neceſſary in the Strong and Plethoric) not only to leſſen the *Moles movenda*, and give a freer Play to the oſcillating Veſſels; but alſo to prevent any inflammatory Obſtructions, which may form in the very Beginning, and likewiſe to moderate the Friction and Heat, which are often very conſiderable for the firſt Days of the Diſorder, and which more and more exalt the Salts and Sulphurs of the Blood,

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encreaſe the Acrimony, and putreſcent State of the Humors, and greatly favour the Action of the morbific Matter.—This therefore, when indicated, ſhould be done as early as poſſible.—A quick tenſe Pulſe, ſharp Heat, great Difficulty of Breathing, Palpitation of the Heart; and violent Pain of the Head and Back evidently demand it.—But it ſhould be duly obſerved, that tho' a *Rigor* precede the Heat, and the Oppreſſion on the *Præcordia* be very conſiderable; yet much leſs Blood ſhould be taken off than in a true Peripneumony, which oftentimes makes its Attack much in the ſame Manner: But the ſudden Weakneſs and great Dejection of Spirits, the Trembling of the Hands, the Paleneſs and Crudity of the Urine, together with the Abſence of a Cough, and Heat of the Breath, which, attend true peripneumonic Fevers, diſtinguiſh the one from the other. Beſides this Affair is leſs liable to be miſtaken, when putrid, peſtilential, or petechial Fevers are common, and the Conſtitution of the Air diſpoſeth to them.—Whatever be the Caſe, the Blood drawn will ſoon ſhew the Difference, which, in malignant Fevers, is of a much more looſe Contexture and ſofter Conſiſtence (tho' it may appear very florid) than that of pleuritics, or peripneumonics; which tho' it may, at the firſt Bleeding, appear very bright, and without a tough white Pellicle on it, eſpecially if it trickles down the

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Arm, and doth not run off in a full Stream, yet when cold it will form into a very firm and denſe *Craſſamentum*.—When you find it quite otherwiſe, be cautious, in all Caſes, and not too prodigal of the vital Fluid.

Now though it may be neceſſary to bleed the Strong and Robuſt at the very Begining of contagious Fevers, yet we ſhould have a very careful Regard to the Nature of the Fever, as ariſing from Contagion, which ſeems to affect not only the *Blood*, but primarily alſo the *animal Spirits*: I think the ſudden Damp, Weakneſs, Tremblings, and great Dejection of Spirits, at the very Attack, evidently ſhew it.—In ſome Plagues Perſons have been ſtruck dead as with a Blaſt of Lightning, without any precedent Fever, or even Indiſpoſition.—It is impoſſible to account for the immediate Operation of the Bite of a Rattle-ſnake, which kills often in leſs than a Minute or two, on any other Suppoſition; nor for the ſurpriſingly ſudden Effect of ſome Smells, on ſome Perſons, which almoſt inſtantaneouſly throw the whole Frame of Nature into the utmoſt Confuſion, and even Convulſion.—The now well-known Effects of the Stroke of *electric Effluvia* not only ſeem to confirm this Notion, but alſo ſhew the analogous Manner in which it is done.—Whoever would ſee more of this, may conſult

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the illuſtrious Dr. *Mead*'s *Introduction to the third Edition of his Eſſay on Poiſons.*

But the Nerves and animal Spirits, being affected by the contagious *Miaſmata*, do not ſufficiently and regularly actuate the muſcular Fibres and Veſſels; whence ariſes great Debility, and too weak a Vibration of the vaſcular Syſtem; and hence the Blood in ſome Places runs into grumous Concretions, and in others is quite diſſolved.—The Heart and its Auricles are found vaſtly diſtended with grumous Blood in thoſe that die of the Plague, the Blood recoiling upon the Heart, which hath not ſufficient Power to protrude it; but yet the Blood in the other Veſſels appears vaſtly thin and diſſolved, inſomuch that it frequently runs off *quà data porta: Timoni** and others obſerve that it is exceedingly difficult to ſtanch it at the Orifices made by Bleeding and Cupping — This I have likewiſe many Times obſerved in common petechial and peſtilential Fevers.

From the peculiar Diſpoſition of the nervous Filaments, and that of the moſt ſubtle and exalted Part of the animal Fluids, which ſo greatly differs in different Perſons, ariſes that aſtoniſhing Diverſity of Affections even from the very ſame Cauſe.—The Smell of an Herb, Flower, Muſk, that refreſhes thouſands, makes ſome particular People faint.—The Stroke of

* *See* Philoſoph. Tranſact. No. 364.

electric

electric Effluvia affects different Perſons in a very different Manner, at leaſt in very different Degrees; probably not only from the different *Craſis* of the animal Spirits, but alſo from the different Tenſion, Strength, *&c.* of the nervous *Fibrillæ:* As muſical Strings, of different Length and Tenſion, will be very differently affected by the ſame Note.—It may perhaps, in Part, be owing to the peculiar Diſpoſition of the Nerves and animal Spirits, that ſome are very readily infected by the Plague, Small-pox, *&c.* and ſome never, although Multitudes ſuffer around them.

But be this as it will, the Contagion certainly weakens the Force of the Solids, and tends to diſſolve the Blood; ſo that, when we have a Suſpicion that a Fever ariſes from Contagion, we ſhould proceed with Caution in letting Blood, even though the Symptoms may run pretty high at the Begining, and ſeem to demand the Taking off a pretty-large Quantity. —In malignant Pleuro-peripneumonies and Peripneumonies I have too often ſeen, and been ſorry for very untoward Miſtakes in this Matter, particularly in the Years 1740, 1741, and 1745:—And therefore, though the firſt Bleeding may be very proper, the ſubſequent may not be ſo, nay pernicious.——The firſt Blood frequently appears florid, what is drawn twenty-four Hours after is commonly livid, black,

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and too thin, a third Quantity livid, diſſolved, and ſanious.—This is frequently the Caſe in malignant petechial Fevers: I have ſometimes obſerved the *Craſis* of the Blood ſo broken as to depoſit a black Powder, like Soot, at the Bottom, the ſuperior Part being either a livid Gore, or a Kind of a dark green, and exceedingly ſoft Jelly.—Beſides, the Pulſe, in theſe Caſes, ſinks oftentimes ſurpriſingly after a ſecond Bleeding, nay ſometimes after the firſt: And this I have more than once noted to my great Concern and Aſtoniſhment, and that even where I thought I had ſufficient Indications from the Pulſe, *&c.* to draw Blood a ſecond Time.—So neceſſary is it therefore to have a due Regard to the peculiar Nature of an epidemic Fever.

Scarce any infectious Fever makes an Attack on any Perſon, without bringing on a Sickneſs at Stomach and Vomiting. As the morbific *Effluvia* are ſwallowed with the *Saliva*, *&c.* may they not, in Part at leaſt, be waſhed off and rejected, by co-operating with Nature, in promoting the Vomiting?—By which alſo any bilious, acrid, putrid *Colluvies*, that may lie in the Stomach, is carried off; which otherwiſe, by growing more and more corrupt, would produce a Variety of ill Symptoms, and greatly encreaſe the original Diſeaſe.—Beſides, Nature many Times ſtrives in vain to diſ-

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charge by Vomit without the Aſſiſtance of Art, and yet as violently, as when a proper *Emetic*, and a *proper Waſh*, are made Uſe of: Nay drinking ſomething to promote the Vomiting makes it both much eaſier, and much more effectual, and by carrying off the irritating Matter tends greatly to ſtop the Vomiting. But then I would have this done always by very gentle Means, ſuch as Infuſion, or Decoction of *Ipecacoanha*, *Oxymel ſcilliticum*, with a ſlight Infuſion of Chamomile Flowers, or the like.—The Method of Vomiting by mere warm Water I do not approve of, as you are oftentimes obliged to ſwill down immenſe Quantities, before you can raiſe the Vomiting, which ſometimes overloads the Stomach to ſuch a Degree, that its Force is not ſufficient for the Weight laid on it, and cannot reject it; ſo that the more you drink, the leſs capable it is of doing its Office: and thus, being over-diſtended, it becomes quite inactive, whence dreadful Effects may follow.—In all Caſes therefore, if no Vomiting follows after having drank a Pint or two, ſolicit a Diſcharge with your Finger, or a Feather, and by all Means beware of that Deluge of Drink, which is too often very prepoſterouſly given.—I think, by the Way, the Obſervation, that the Stomach is utterly inactive, and cannot reject any Thing when over-diſtended, juſt as the urinary Bladder

der when overful cannot render any Urine, ſhews that *Vomiting* is not ſolely from the Action of the *Diaphragm* and *abdominal Muſcles*, as Monſ. *Chirac* and others ſuppoſe; for their utmoſt Efforts many Times produce no Manner of Effect on an overful Stomach or Bladder:—In the latter, we are frequently obliged to have Recourſe to the *Catheter*.

If the Vomiting continues, after the Stomach is waſhed out, give a little *Theriaca Andromachi* out of an appropriate ſtomachic Mixture, as Salt of Wormwood, Juice of Lemons, Mint-water, *&c.* and apply an aromatic Fotus, or rather a Cataplaſm of *Species aromaticæ* with *Theriaca*, which moſt Times ſucceeds when every Thing elſe fails.

Not only the Stomach, but the whole inteſtinal Canal, ſhould be unloaded in the Beginning of theſe Fevers; but I am ſure Reaſon and Experience ſhew the Neceſſity of doing it by very gentle Methods; Clyſters of Milk, Sugar and Salt, Laxatives of Manna, Cream of Tartar, *Sal cathartic. Glauberi.* Tamarinds and Rhubarb, are what I would chiefly, if not only, adviſe. I have too often ſeen the extream ill Effects of acrid and ſtronger Purgatives.—* *Hoffman* cautions even againſt *Sena*. The above ſoft, eaſy Emetics and *Eccoprotics*,

* *De Febribus petechial. veris. Tom. IV.*

have this further Advantage, that they may be repeated, and given from Time to Time, as the putrid bilious *Colluvies* drains into the firſt Paſſages.—By ſuch Means I never fear to puke, or promote a Stool or two, when indicated, at any Time of the Fever, by a nauſeous bitter Taſte in the Mouth, Sickneſs at Stomach, *nidoroſe* and fœtid *Eructations*; or by too great Coſtiveneſs, tumid Abdomen, *Borborygmi*, griping Pains, *&c.*

Tho' *Hippocrates* * adviſes in general againſt purging off the crude Humors, in the Begining of Diſeaſes, before they are concocted; yet he allows we may purge in the Begining, when there is a *Turgeſcence* of the Humors, and they make an Effort to be diſcharged: Thus a *Cholera Morbus* is an Effort of Nature to throw off a ſuperabundant acrid Bile.—When putrid, malignant autumnal Fevers ariſe from a Redundance of putreſcent *aduſt Choler*, as the Ancients called it, in the Region of the Liver, Stomach, *&c.* which is very often the Caſe after hot Summers have greatly encreaſed and exalted the Bile, animal Salts and Oils; we ſhould certainly begin with ſuch gentle Emetics, and Cathartics, as I have mentioned.

Unqueſtionably the bilious Principle is too greatly predominant in all putrid, malignant, and

* *Aphor.* 2. Sect. I. & Lib. *de Humoribus.*

petechial

petechial Fevers.—The Gall-bladder and biliary Ducts are always found full of black or green Bile in thoſe, that die of peſtilential Diſeaſes, and ſo is the Stomach, *Duodenum*, *&c.* † —Now if this putrid Bile is not carried off, it grows more and more corrupt, and cauſes vaſt Anxiety, Sickneſs at Stomach, Pain, *&c.* and, being reabſorbed into the Blood, creates infinite Evils, greatly irritates the *Genus nervoſum*, deſtroys the *Craſis* of the Blood, and turns the *Lymph* into a corroſive *Ichor*.— Where therefore there are Signs of its being redundant, it ſhould be forthwith diſcharged by Vomit, or Stool, as Nature points out.—I have many Times, with the greateſt Pleaſure, in theſe putrid Fevers, ſeen an amazing Change for the better immediately ſucceed a Fit of Vomiting, and a Stool or two; where an inexpreſſible Anxiety, Load on the *Præcordia*, perpetual Sickneſs, *Eructation* and *Singultus* had preceded. The extream Foulneſs of the Tongue, Sickneſs and Load at Stomach, with a loathſome bitter Taſte, and horribly offenſive ſtinking Breath and Eructations, ſhew the Condition of the Stomach; and the abominably fœtid, black, bilious Stools the Neceſſity and Advantage of that Diſcharge.—Surely if a Poiſon of any Kind was lodged in the Stomach, or Bowels, we ſhould not heſi-

† *Traité de la Peſte*, &c. *Paris* 1744. 4to.

tate about the Neceſſity of carrying it off as ſoon as poſſible; and truly putrid Bile is little leſs pernicious than an actual Poiſon. Commonly about the State of theſe Fevers, or between the ſeventh and fourteenth Day, Nature of her own Accord endeavours to relieve herſelf from the putrid bilious *Colluvies* by Vomit, or looſe Stools more frequently; and her regular Operations ſhould always be favoured by Art: and accordingly I generally give a gentle Laxative the eighth or ninth Day, unleſs I find ſome Eruption appearing, or a kindly Sweat forbid it.—Till this Time, I ſeldom uſe any Kind of Purgative except a little Manna, Cream of Tartar, or the like, at the very Begining, (eſpecially when I have Reaſon to think the Diſeaſe ariſes more from Contagion than a putrid *Saburra*) ordering however an emollient, laxative Clyſter every ſecond or third Day, as there may be Occaſion.—This Laxative I repeat from Time to Time as Symptoms indicate, and during the Operation carefully ſupport my Patient with proper cordial Diet, Drink and Medicine.—By theſe Means, I not only prevent the Congeſtion, and encreaſing Corruption, of this putrid bilious Matter in the firſt Paſſages, but alſo its *Reabſorption* into the Blood; and likewiſe ſolicit a further Diſcharge of the morbid Humors into the inteſtinal Canal, and thence out of the Body. This gentle Method of purg-

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ing about this Time, in theſe Fevers, I have for many Years found of very great Advantage; but I proteſt againſt the *aloëtic, ſcammoniate Coloquintida* Purgers; which in ſuch a putrid diſſolved, acrimonious State of the Blood are Poiſons, not Medicines: and whoever uſes them in ſuch a Caſe, ſhould have the Guts of his Brain purged, if he hath any there. — Nature indeed, without ſuch powerful Stimulants, too frequently over-acts her Part, and runs into a profuſe Diarrhœa, a Dyſentery, ſoon fatal if not reſtrained; — but this moſt commonly happens from ſuffering the corrupt bilious Matter to lodge, and putrefy too long a Time, in the Bowels; and the beſt Way to prevent it is to diſlodge it, at proper Seaſons, and due Intervals.—When we are threatened with ſuch an immoderate Diſcharge, we muſt have Recourſe to proper aſtringent Alexipharmacs, *Theriaca Andromachi, Confect. Fracaſtor.* Tincture of Roſes, red Wine mulled up with Cinnamon, *&c.* but above all, if the Caſe be very urgent, to an aſtringent Clyſter of *Confect. Fracaſt.* or *Theriaca Andromachi*, with a ſmall Quantity of Decoction of Tormentil, red roſes, or Japon Earth.— But no ſmall Degree of Prudence is neceſſary in the Uſe of it; for it is always of dangerous Conſequence to ſuppreſs a critical Diarrhœa prematurely; and I think it ſhould never be done without premiſing a ſmall Doſe

or two of Rhubarb. — Before I conclude this Paragraph, I cannot but take Notice, that tho' I have very often ſeen a Diarrhœa critical and ſalutary at the State, or Decline of theſe Fevers, I generally find it prejudicial at the very Beginning; eſpecially if very thin, ſerous and profuſe. — Nothing more certainly ſhews a Diarrhœa to be uſeful, than when a gentle breathing Sweat, or warm Moiſture of the Skin, accompanies it.

Tho' Nature very frequently affects to diſcharge the morbific Matter, in putrid malignant Fevers, by Vomit and Stool; yet her more conſtant and grand Effort is through the Pores of the Skin.—I ſolemnly aſſert, I never ſaw one of theſe Fevers compleatly judged, or carried off, till more or leſs of a Sweat iſſued.—If it proves moderate, warm, and equally diffuſed over the whole Body, ſuch as we call a breathing Sweat; if it comes on about the State of the Diſeaſe, and the Pulſe grows more open, ſoft, and calm a little before, and during its Continuance, it is always ſalutary: — But if very profuſe, cold, clammy, or partial, about the Head and Breaſt only, we have much more Reaſon to fear than to hope from it. — If profuſe Sweats break forth at the Begining, they are generally pernicious; eſpecially if a *Rigor* ſupervenes.

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But, as theſe Sweats are always moſt favourable, when they are more the Work of Nature than Art; they ſhould never be too ſoon, or too forcibly driven out by violent hot Medicines, Regimen, *&c*; it is ſufficient to promote and ſupport them, by plentiful ſubacid Diluents, and gentle cordial Diaphoretics; ſuch as may dilute and waſh off the Salts, contemperate the Acrimony, and prevent the further Encreaſe of the *Putreſcence*, and Diſſolution of the Blood, and preſerve and ſtrengthen the Tone of the Solids.

But, as Perſons of very different Conſtitutions, both as to their Solids and Fluids, may be attacked by contagious Diſeaſes, very different Methods of Cure will be neceſſary in their reſpective Caſes: Thoſe of ſtrong Fibres, and a rich denſe Blood, do not require ſuch warm Medicines as are neceſſary to ſupport the Feeble and Phlegmatic. It ſhould be obſerved in general however, that as the Blood and Humors in peſtilential and petechial Fevers tend to Diſſolution, Stagnation and Putrefaction; ſuch Methods as will preſerve the *contractile* Force of the Veſſels, and prevent the Advance of Putrefaction, are neceſſary: The vegetable, and even properly prepared mineral, Acids are highly ſerviceable in the latter Intention; and the ſubaſtringent Alexipharmacs are

very uſeful in the former. — But I am very certain, that the Uſe of volatile, alcalious Salts and Spirits is very hurtful; as they without all Doubt augment the putreſcent State of the Humors, and act as ſo many *Spurrers* on to ſwifter Deſtruction: — A very large Uſe of them, without the Aid of Contagion, being found to bring on a Corruption and Diſſolution of the Blood, and ſuch Kind of Fevers, even in the moſt healthy. — Perhaps the peſtilential *Miaſmata* themſelves are only highly volatilized and ſubtilized animal Salts: — The Generation of peſtilential Fevers, by the putrid Exhalations of dead Bodies, after Battles, Sieges, &c. ſeems to ſhew this.

What I have ſaid of volatile alcalious Salts, leads me to a Reflexion on the promiſcuous Uſe of Bliſters in theſe Fevers; which by ſome are deemed the only *Anchor of Hope* in ſuch dangerous Caſes; But I think they are many Times too haſtily and improperly applied, eſpecially in the Begining, when the Fever runs high, and doth not demand a further *Stimulant*; for the Action of the *Cantharides* is not merely on the Skin, but affects the whole nervous and vaſcular Syſtem: Now when the Irritations and Vibrations are already too great, as frequently happens in the Begining of ſuch Fevers, they are very injudiciouſly applied. Beſides, the

Salts

Salts of theſe *Flies* operate much in the ſame Manner as the volatile alcali Salts, and certainly tend to promote the Diſſolution, and conſequently Putrefaction of the Blood.—It is true indeed, Nature may ſometimes want a *Spur*, nay often doth ſo, particularly towards the Decline of theſe Fevers; when the Solids grow torpid, the Circulation languid, the Spirits *effæte*, and the Sick comatoſe: Here Bliſters muſt be applied, and are of exceeding great Uſe, at whatever Time of the Fever ſuch a Train of Symptoms comes on.—But, in the above Circumſtances, I have very many Times ſeen very pernicious Effects attend their too early Application; as obſtinate *Pervigilium*, *Delirium*, Suppreſſion of Urine, *Tremors*, *Subſultus*, &c. I would therefore adviſe the younger Practitioners, before they deal largely in theſe *wholeſome Severities*, to conſult *Baglivi de uſu and abuſu Veſicantium*; and they will underſtand him much the better, if they previouſly read his Treatiſe *de Fibrâ Motrice*, & *Bellini de Stimulis*.—Let me further add, that where ſeveral Bliſters are laid on in any acute Caſe, the Patient ſhould drink freely of Whey, Emulſion, or ſome other ſubacid and demulcent Liquor; otherwiſe he may ſuffer almoſt as much from the Remedy as from the Diſeaſe.

It may be expected I ſhould mention *Camphire*, as the grand *Corrector* of the Acrimony of *Cantharides*; and in this View I frequently uſe it,

well knowing that nothing more effectually blunts the *Spicula* of Salts than this exceeding *fine, volatile, vegetable Sulphur*; even thoſe of mercurial Preparations are greatly ſoftened by it.—But I think, in theſe putrid peſtilential Fevers, it anſwers a much more important End by promoting a *Diaphoreſis*, or eaſy Sweat, which is univerſally allowed in ſuch Caſes of the higheſt Service: But nothing more certainly doth this than Camphire, with this further Advantage, that it by no Means heats ſo much as volatile alcalious Salts, and ardent Spirits.—Beſides, its anodyne demulcent Quality makes it vaſtly ſerviceable, in quieting the *Erethiſm*, and bringing on Compoſure of Spirits and eaſy Sleep, when Opiates fail, nay augment the Tumult and Hurry.—Indeed, when joined with an Opiate, it is the moſt certain Sudorific in Nature; and the *Elixir aſthmaticum*, or *paregoricum*, is not only in this Reſpect, but in many others, a moſt noble Medicine. But whenever Opiates are given in theſe Fevers, it ſhould be only in ſmall Quantities at a Doſe, which may be repeated, as indicated; *Theriaca Andromachi*, *Mithridate*, *Diaſcordium*, & *Elixir paregoricum* are without all Doubt much the beſt. *Camphire* however hath this Fault, that it is very diſagreeable to the Stomach, but when diſſolved in (or rather intimately mixed with) *hot Vinegar*, after the Manner

Manner of the *Julep. è Camphorâ*, it ſits much eaſier, and is a Medicine excellently well adapted to putrid malignant Fevers, and even the Plague itſelf: For both Camphire and Vinegar are highly recommended, by almoſt all Phyſicians, in peſtilential Diſeaſes. The *French Phyſicians* made great Uſe of both, with Succeſs, in the late *Plague of Marſeilles*, &c. and *Heiniſius* * had a Statue erected to his Memory, for the Service he did in the Plague at *Verona* by a Medicine, the *Baſis* of which was *Camphire*.

Now, as we are obliged to give Acids and Subaſtringents, in putrid malignant and petechial Fevers, to preſerve the *Craſis* of the Blood, and the *Tone* of the Veſſels, and prevent the further *Putreſcence* of the Humors; Diaphoretics (the chief of which is Camphire) ſhould be joined with them, to keep up a free Perſpiration, or gentle Sweat, which the former are apt to retard: This is quite conformable to the Practice of the Ancients, who mixed Aſtringents with Alexipharmacs, in the Compoſition of their *Antidota*, as may be ſeen in *Theriaca Andromachi*, *Mithridate*, &c. — I am perſuaded they are better for it.—Theſe have ſtood the Teſt of Ages, and are unqueſtionably

* *Vid. Etmuller. de Peſte Tom.* i. *p.* 263. *Edit. Francofurt.* 1688. *Fol.*

excellent

excellent Medicines (when well uſed) tho' there may be ſeveral Things in them trifling both as to Quantity and Quality.—I very well know *Alum* and *Nutmeg* may be given with Advantage, in other Fevers, beſides Intermittents; eſpecially when a little *Camphire* and *Saffron* are joined with them.

Here I beg Leave to inſert the following *Preparation of the Bark*, which I have uſed for many Years with Succeſs, not only in intermittent and ſlow nervous Fevers, but alſo in the putrid, peſtilential, and petechial, eſpecially in the Decline; and that too many Times tho' the Remiſſions have been very obſcure, and yet with a very good Effect.—But if the Patient is coſtive, or hath a tenſe and tumid Abdomen, I always premiſe a Doſe of Rhubarb, Manna, or the like.

℞. *Cort. Peruv. opt. pulv.* ℥ii. *Flaved. Aurant. Hiſpal.* ℥iſs. *Rad. Serpent. Virgin.* ʒiii. *Croc. Anglic.* ℈iv. *Coccinel.* ℈ii. *Sp. Vini Gallici* ℥xx. *f. Infuſio clauſa per dies aliquot (tres ſaltem quatuorve) deinde coletur.*

Of this I give from ʒi to ℥ſs every fourth, ſixth, or eighth Hour, with ten, fifteen, or twenty Drops of *Elixir Vitrioli* out of any appropriate Draught, or diluted Wine.—This I order to be kept, in theſe Parts, as an officinal Medicine; and as a very uſeful one I recommend it

to

to the Tryal of others.—I very well know it will ſometimes ſucceed in Intermittents, when the Bark in Subſtance, or Decoction, will not eaſily ſit with the Patients :—And this is often an Advantage of Medicines given in a liquid Form, which in a ſolid one proved diſagreeable; and therefore where it can be conveniently and effectually done, it ſhould be complied with.—The above Compoſition tends to ſtrengthen the Solids, to prevent the further Diſſolution and Corruption of the Blood, and in the Event to reſtore its *Craſis:* — And this it doth without ſhutting up the Pores of the Skin too much which the Bark in Subſtance too frequently doth.—For it ſhould be noted, that tho' very profuſe Sweats in theſe (and all other Fevers I think) are prejudicial; yet gentle, eaſy, moderate Sweats are always to be encouraged, particularly at the State, and in the Decline, by proper plentiful Diluents, liquid Aliment, *&c.* —Indeed, as theſe Fevers very often run out to a great Length of Time, ſupporting Drinks and Diet are neceſſary, without which the Patients certainly ſink under them.—In this View, and in thoſe abovementioned, I cannot but recommend a generous *red Wine*, as a moſt noble, natural ſubaſtringent Cordial, and perhaps Art can ſcarce ſupply a better.—Of this I am confident, that ſometimes at the State, and more frequently in the Decline, of putrid malignant

Fevers,

Fevers, it is of the higheſt Service; eſpecially when acidulated with Juice of Sevil Orange, or Lemon.—It may be alſo impregnated with ſome Aromatics, as Cinnamon, Sevil Orange Rind, red Roſes, or the like, as may be indicated; and a few Drops of *Elixir Vitrioli* may be added.—I will not ſay in the Rant of *Aſclepiades*, * *Utilitatem vini æquari vix deorum potentiâ*; but it is undoubtedly of admirable Uſe not only in common Life, but as a Medicine.—*Rheniſh* and *French* white Wines, diluted, make a moſt ſalutary Drink in ſeveral Kinds of Fevers, and generous *Cyder* is little inferior to either:—And, as I ſaid above, ſound, old, red Wine is a fine ſubaſtringent cordial Julep.—The *Aſiatics*, and other Nations, where peſtilential Diſorders are much more rife than with us, lay more Streſs on the Juice of Lemons in theſe Fevers than on the moſt celebrated Alexipharmac. It is not as to theſe only, but in many other Things, that we ſeek from Art, what all-bountiful Nature moſt readily, and as effectually, offers us, had we Diligence and Sagacity enough to obſerve, and make Uſe of them.—And I cannot but here take Notice, that I think the *dietetic* Part of Medicine is not ſo much ſtudied as it deſerves.—I am ſure it is the more natural Way

* *Plinii Hiſtor. natural. ex Edit. Harduin. Pariſ.* 1723. *Folio. Tom. II. p.* 301.

of

of Cure, tho' leſs pompous indeed than alexipharmac Bolus, febrifuge Draught, and cordial Julep.

As I think the following Diſſertations will more fully illuſtrate and confirm the preceding Doctrine, I ſhall here ſubjoin them.

A N

AN
ESSAY
ON THE
SMALL-POX.

THE *different Effects* of the *ſame Diſeaſe*, on *different Conſtitutions of the Solids and Fluids*, is in no Caſe more evident than in the *Small-pox*.—For, *firſt*, when the variolous Contagion attacks a Perſon of ſtrong tenſe Fibres, and a rich denſe Blood, commonly a ſmart inflammatory Fever enſues; in which ſometimes the Lungs, ſometimes the Brain, the Throat and other Parts are greatly inflamed, and on Bleeding you have a very thick inflammatory Blood; and you are many Times obliged to bleed repeatedly, unleſs you will ſuffer your Patient to be carried off by a raving Phrenzy, or choaked by a peripenumonic Inflammation.—Here the Pulſe is rapid, full, tenſe; the Breathing hot, ſhort, and laborious; the Heat very ſharp and the Urine high-coloured; the Thirſt great,

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the Tongue dry and foul; the Pain of the Head, Back, Loins, Limbs, exceedingly acute.—Under ſuch Symptoms I would bleed in a Peſtilence, or indeed any other Diſorder whatſoever, or elſe the utmoſt Danger will ariſe from the inflammatory *Diatheſis* of the Blood, abſtracted from the Contagion.

But I can by no Means approve of the promiſcuous Uſe of Bleeding, ſo commonly practiſed in all Attacks of the Small-pox.—For, 2*dly*, that Diſeaſe many Times comes on with the uſual Symptoms of a ſlow nervous Fever, and the Sick are frequently a long Time *drooping*, as the Vulgar call it; the Fever low, the Spirits ſunk, the Pulſe weak, quick and fluttering, the Countenance pale and fallen, the Urine crude and thin, no great Thirſt, no great Heat, a continued Giddineſs and Heavineſs of the Head with Tremblings, a perpetual *Nauſea* and Puking, univerſal Uneaſineſs, Weakneſs, Wearineſs, &c. I have ſeveral Times known Symptoms of this Kind continue for ſeven or eight Days together, and at laſt end in the Small-pox; which almoſt always proved of a very bad Sort, pale, crude, pitted and *ſeſſile*, never riſing well, or maturating kindly, but continuing flat and flaccid, or running together in large watery Bliſters, full of thin undigeſted *Ichor*, and ſo remaining to the very laſt; whilſt in the Face, from a deadly pale cadave-

rous

rous Hue, they turned to a ghaſtly black, and very adheſive Cruſt, if the Patient ſurvived long enough, and even then generally proved fatal.

3*dly*, Sometimes the Small-pox are attended with a Fever of the malignant or petechial Kind, in which the *Craſis* of the Blood becomes quite diſſolved, black and livid Spots appear, Hæmorrhages enſue, and the Puſtules turn black, gangrenous, and often bloody ſoon after the Eruption, and that too ſometimes when the Pox are very few and diſtinct.—Here then we find three different Kinds of Fevers produced by one Species of Contagion, and we are obliged in the Method of Cure to have a Regard to the particular Fever, as well as to the peculiar Nature of the contagious Diſeaſe.

By this we ſee how abſurd the general Notion of either the *hot*, or *cold*, *Regimen* is in all Kinds of the Small-pox indifferently.—Sometimes *Sydenham*'s Method may be proper, ſometimes *Morton*'s.—— In a Word, the particular Caſe requires a particular Method, and the attending Phyſician is to ſhew his Judgment in adapting it rightly.

Tho' the Contagion of the Small-pox produces the ſame ſpecific Diſeaſe, yet the Degrees of that Diſeaſe are vaſtly different.—— Even the very ſame Contagion, in the ſame Houſe, Family, or Village, frequently pro-

duces

duces very different Kinds of Pox; ſome exceeding mild and diſtinct, ſome highly malignant and dangerous.— We ſee innumerable Inſtances where the firſt ſeized ſhall have a very favourable Kind, the ſubſequent a confluent, malign and fatal: This is every Day's Experience; and yet amidſt all this, and from the very worſt Sort, intermediate Inſtances happen of the moſt benign. — So that it is quite Demonſtration, that the Conſtitutions of the particular Patients greatly diverſify the ſucceeding Diſeaſe: —And it is ſo in all Caſes; for even a common Scratch in one rankles and proves a ſtubborn Ulcer, in another a large lacerated Wound heals up with little or no Difficulty. — A common *Phlegmon* in one eaſily reſolves, or ſuppurates kindly, in another it proves gangrenous, ſcirrhous or cancerous.

The Contagion of the Small-pox doth not always bring on a Fever, at leaſt to any conſiderable Degree, though it may the Small-pox; for many Children, and even grown Perſons, have had them in the natural Way, in ſo mild a Manner, that they have had no perceptible Fever, nor ſcarce ailed any Thing previous to, or during the Courſe of them. — The variolous *Pus* oftentimes infects the Skin of thoſe that have had them already, producing a great Number of Puſtules, altogether ſimilar to thoſe of the Small-pox, of the ſame Dura-

tion and Manner in Maturation, but without any Fever.—This is very common among thoſe that attend and handle Perſons ill of that Diſtemper, eſpecially thoſe who have fine and tender Skins. —Here the Contagion affects the cutaneous Glands, *&c.* only, and not the Blood, which had ſuch an Alteration made in it by the former Small-pox, as not to be ſuſceptive of it ever after.—There are ſome peculiar Conſtitutions, that will never receive this Diſeaſe; for ſeveral Perſons never have the Small-pox, though frequently converſing with, and even attending People in them. I knew an *old Nurſe*, and *one Apothecary*, who for many Years attended Perſons (and a great Number too) in the Small-pox, and yet never had them. Nay many, that have induſtriouſly endeavoured to catch the Infection, by frequenting the Chambers of the Sick, have done it without Effect; — and yet ſome of theſe very Perſons, ſome Months or Years after, have been ſeized with the Small-pox.— The variolous *Pus*, in *Inoculation*, will not infect every one; and it is well known the *Pus*, even from the ſame Perſon, produces very different Numbers of Small-pox in different Perſons, and very different Degrees of Fever. —Upon the whole then it is evident, that the previous State of the Body, and Diſpoſition of the Humors, greatly contribute to determine the Quantity and Quality of the Small-pox. —

Not

Not but that the contagious *Miaſmata* may be of a much more virulent and active Nature at one Time than another, or during one Conſtitution of the Air than another: and indeed we actually find that it is ſo. — But even this may be very much owing to that peculiar State of the Air, inducing ſuch or ſuch Qualities into the Solids and Fluids, which render them liable to ſuch and ſuch peculiar Fevers: —For we find one Conſtitution of the Atmoſphere diſpoſeth to inflammatory Fevers, another to the ſlow nervous, remittents, intermittents, *&c*; and a third to the putrid, malignant, or petechial.——Now where the Contagion coincides, and co-operates with ſuch or ſuch a Conſtitution, it will be productive of ſuch or ſuch a Kind of Small-pox, or rather of ſuch or ſuch a Kind of Fever with the Small-pox. —— For ſurely we many Times obſerve a very untoward Fever to accompany the Small-pox, where very few, and very diſtinct, though of an ill Kind.—Indeed, I think, I have frequently obſerved the common epidemic Fever manifeſtly concurring with the Small-pox, and that the variolous Contagion only diverſified the Diſeaſe; or rather the epidemic Fever was coincident with the Small-pox on the ſame Subject.—This was the Caſe very often in 1740, 1741, and 1745; when a violent epidemic Fever, of the peſtilential Kind, raged *here*, chiefly among

the *Sailors*, *Soldiers* and *Priſoners* (eſpecially in the laſt of thoſe Years) who had commonly the moſt evident Symptoms of the malignant Fever with the Small-pox, which therefore proved exceeding fatal among them; whereas many Perſons in the *Neighbourhood*, that had no Communication with the *Hoſpitals*, and were otherwiſe tolerably healthy, had a very favourable Kind.—And probably this malignant Fever was chiefly owing to the high ſcorbutic ill Habit of Body, Manner of Life, Confinement, *&c.* to which the above Set of People were ſubject: —Though I think the Fever, * in 1740, was from another Original.

It ſhould ſeem then, could we preſerve, or produce, a certain peculiar Diſpoſition of the Blood and Humors, we might elude the Force of the Infection: —And this indeed is talked of by ſome, but I think upon a very ſlight Foundation. — Some particular Preparations of the *Bark* and *Mercurials*, by Way of Antidote, have been thought ſucceſsful, and I have known ſome Inſtances that inclined me to think ſo; but I am far from being ſatisfied ſo far as to adviſe, or depend on them.

In Truth, in different Conſtitutions, the very ſame Medicine ſhall have very different Effects, and it would be Madneſs to give the

* *Vid. hujus hiſtoriam, Obſ. noſtr. de Aere, &c. Vol. II. menſe Junio* 1740.

Bark

Bark and cordial Corroborants to one of very ſtrong rigid Fibres, and a very denſe viſcid Blood, by Way of *Prophylactic*, or *Preparative*; though they might be of much Service in a weak lax State of Veſſels, and a poor watery Blood.—Would Mercurials be proper in a too looſely cohering diſſolving State of the Blood?—Verily ſome bad Effects have been ſometimes noted on the Uſe of them, particularly *Petechiæ*, Hæmorrhages, and profuſe *Diarrhœa*'s in the enſuing Pox; though I am ſenſible, in other Circumſtances, they may be very uſeful.—In Sum then, whatever can be done rationally in this Way, muſt be with a View to mend what is faulty, or ſupply what is defective, in the Conſtitution; ſo as either to fortify it againſt the Attack of the Diſeaſe, or to prepare it the better to cope with it, when it actually ſeizes.— Perhaps theſe few Hints may not be altogether unworthy the Conſideration of thoſe eſpecially, who have the Preparation and Management of Perſons to be inoculated.

I am perſuaded, if Perſons, regularly prepared, were to receive the *variolous Contagion* in a natural Way, far the greater Part would have them in a mild Manner; for undoubtedly a very bad Sort of Small-pox many Times ariſes from an Over-fulneſs of Blood, Acrimony of Humors, or great Loads of foul Matter in the firſt Paſſages; and very frequently Er-

rors are committed in Diet, Exercise, &c. after the Infection is first taken, which often prove of fatal Consequence in the Event.——From these, those that are inoculated are, and should be guarded, and hence the great Success of that Operation.—Not but that the mild Kind, from whence the *variolous Pus* is taken, and the very small Quantity of infectious Matter received by *Insition*, in Part also contribute to the Mildness of the Disease. — This perhaps is the whole of *Inoculation*, if you take in likewise this Consideration, that it is practised chiefly on the young, fearless and most healthy. —Innumerable Instances however have now sufficiently evinced the great Success and Advantage of this Method; and, granting all that Prejudice and Party have said against it, the Danger in the natural Way is at least ten to one, of what it is in this.

A particular Regard then must be had to the Constitution of the Patient, and the Constitution of the Air, if we would practise with Reason and Success in the Small-pox, and indeed in all other epidemic Disorders.

For, *first*, the robust and vigorous Constitutions have more viscid and dense Humors, and much more of the red, globular, compact Blood; and of Course are liable to a higher Fever and greater Inflammation than Persons of lax Fibres, and a poor watery Blood; and

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for this Reaſon can better bear, in all Caſes, Evacuations, eſpecially by Bleeding.

In the former then it is prudent, on the Attack of the Small-pox, to draw off ſome Blood, and, if Symptoms run high, to repeat it. A full, tenſe, throbbing Pulſe, great Heat, a difficult and hot Reſpiration, high Colour of the Face, Redneſs of Eyes, Phrenzy, *&c.* particularly demand it: An acute Pain of the Head, Inflammation of the Eyes, and Throbbing of the carotid and temporal Arteries, denote an Inflammation of the Brain, or its *Meninges*, which you can never be too earneſt and early in endeavouring to remove. —— After having drawn a proper Quantity of Blood from the Arm, Bleeding in the Foot hath generally an admirable good Effect.

Bleeding in ſuch Caſes doth not retard the Eruption, at leaſt not beyond its due Time. — Where the Blood and Spirits are under a vaſt Agitation, and the Circulation exceſſively rapid, Nature is ſo much embarraſſed, as to be unable to make a regular Expulſion of the morbific Matter, much leſs to *concoct* it, or even to perform the common natural Secretions: — In common ardent and inflammatory Fevers you are many Times obliged to bleed once and again, before you can procure the leaſt Sweat.—Beſides, ſome Degree of *Coction* is neceſſary in all critical Eruptions, at leaſt in

ſuch as prove ſalutary ; and therefore you have generally more or leſs of a Sediment in the Urine juſt before, or at, the Eruption, and the Fever ſubſides.— Where all is in a Hurry, and the Pox are puſhed out too ſoon, frequently even within thirty Hours, the Fever continues, and the Event is almoſt always fatal.—Nor will Bleeding, under the above Circumſtances, weaken the Powers of Nature ; but, by calming the over-violent Motion of the vital Fluid, and cauſing a more regular Secretion of the animal Spirits, it will relieve, nay ſupport her in her Work.

Bleeding in the Foot is known to make a very powerful Revulſion from the Head and Breaſt, Parts we ſhould endeavour to guard, as much as poſſible, againſt the Violence of this Diſeaſe. — And, to this End, I would recommend alſo Bathing the Feet and Legs in warm Water, or Milk and Water, for a few Minutes, two or three Times a Day, before, and at the Eruption ; and would likewiſe have *Cataplaſms of Milk and Bread*, *boiled Turneps*, or the like, applied to the Feet.— This Practice I have for many Years uſed with Succeſs, and particularly recommended in a ſhort Account of an anomalous Small-pox, that raged *here* in 1724 and 1725 *.— This draws the Blood in greater Quantities to the lower Parts, and of

* *Philoſoph. Tranſact.* No. 390.

Courſe

Courſe relieves the Head and Breaſt; and, as it brings down more Blood, it brings down alſo more of the variolous Matter to thoſe Parts, and, what is more, facilitates its Eruption on them; which leſſens the Quantity, that might otherwiſe break out about the Head, *&c*: At the ſame Time the relaxing Quality of the tepid Bath tends to calm the Impetuoſity of the Blood, and in ſome Meaſure alſo dilutes it. It is certain, where this Method is uſed, a vaſt many Pox break out on the Legs and Feet, and ſometimes on the Application of the Cataplaſms very ſevere Pains affect them.—It is the Number of Puſtules about the Head, Throat and Breaſt, that are ſo juſtly to be feared: A common *Eryſipelas* of the Face and Head is vaſtly more dangerous than on the inferior Limbs.— The Head therefore ſhould never be kept too hot, but ſhould be ſhaved antecedent to the Eruption, eſpecially where there is much Hair; this not only keeps the Head much cooler and leſs liable to be over-run with Puſtules, but likewiſe prevents many troubleſome Accidents in the Courſe of the Diſeaſe.

If, notwithſtanding the Fever continues to run high, the Eruption doth not regularly advance; I would not only adviſe Bathing the Legs and Feet, but the Arms and Hands, nay and even the Trunk of the Body alſo.— This I have had Occaſion to practiſe more than once

in

in ſome Children, who, from being uſed to the *cold Bath* for ricketty Diſorders, had their Skin rendered more denſe and hard than natural, which probably retarded the Eruption beyond the due Seaſon. In one of theſe (now a ſtrong luſty Gentleman) the Pox did not appear till the ſixth Day, tho' he had a very ſmart Fever from the Begining; and then, on bathing him up to the Breaſt in warm Milk and Water, the Pox came out forthwith, very kindly, tho' pretty numerous.— Bathing the Body in this Manner not only tends to relieve the Head and Breaſt, but it alſo draws out the morbific Matter, and promotes its Eruption on the external Habit, by which the internal and more vital Parts are leſs liable to the Ravage of the Diſeaſe: It is too often found that the *variolous Puſtules on the Lungs, Viſcera of the Abdomen*, &c. produce mortal Effects.—This is not altogether a new Method: for *Rhazes* * adviſes the Patient to be kept in a kind of *Balneum Vaporis*, to facilitate the Eruption.

Many Times the Strong and Plethoric fall into a vaſt Dejection of Spirits, and a general Debility, attended with a heavy oppreſſed Pulſe, at the very Seizure with the Small-pox; which makes the leſs experienced Practitioner very diffident as to Bleeding, tho' here equally neceſ-

* *Vid. Rhaz. de Variolis & Morbillis Cap.* vi. *ex Edit. Mead.*

ſary,

ſary, and nothing ſooner relieves them, eſpecially when this, in great Part, ariſes from Fear and Dread of the Diſeaſe: which is very often the Caſe with adult Perſons, who by the bye can beſt bear Bleeding, unleſs very old. For not only the Contagion itſelf perhaps primarily affects the animal Spirits, but the very Fear and Concern alſo ſo diſturb and weaken the Powers of Nature, that the Heart and contractile Veſſels exert much leſs Force on the contained Fluids; whence the regular Secretions and Excretions are conſiderably diminiſhed, particularly thoſe important ones, the nervous Fluid, and Perſpiration: ſo that hence the *Moles movenda* is encreaſed, and the *Vis motrix* leſſened.—Drawing off Part therefore of the encreaſed Blood, under ſuch Circumſtances, is in Event equivalent to an Encreaſe of the moving Force.—Beſides, when Part of the viſcid Humors is drawn off, the remaining are more eaſily attenuated, and rendered more fit to give off the actuating Principles, or animal Spirits, in due Quantity.—Some Blood therefore, in ſuch Caſes, ſhould be drawn as early as poſſible, but not in too large Quantities at once.—It is certainly better to repeat the Bleeding, if neceſſary, at leaſt to ſtop the Orifice now and then; for by this Means you avoid the Fainting, which otherwiſe frequently happens, unleſs the Patient is bled in a recumbent, or lying Poſture.

But

But further, where immoderate Fear and Dejection of Spirits concur with the Diſeaſe, there is really oftentimes a Neceſſity of giving ſomething of a cordial Nature, even at the very Begining, and that too ſometimes even not ſparingly. Now when the ſuperabundant Quantity of the Blood is drawn off, theſe invigorating Medicines may be uſed with greater Safety and Advantage; and I have many Times ſeen exceeding good Effects from them, where the Puſtules, thro' exceſſive Fear, and Oppreſſion of Spirits of the Patients, lay buried in the Skin, as it were, and made no conſiderable Advance for two or three Days together.— I am no great Advocate for the *hot Regimen*, eſpecially at the Begining of the Small-pox; but I know this muſt be done in ſuch Caſes, and Bliſters muſt be applied to rouze the ſluggiſh Oſcillations of the Veſſels, or the Patient certainly ſinks under the Malady.—Yet in general, I am not fond of Bliſtering very early in the Small-pox, unleſs there is great Reaſon to fear that the Tongue, *Fauces*, and narine Paſſages, are otherwiſe like to be greatly infeſted with them: When the Diſeaſe attacks with a Rawneſs, Soreneſs, or great Heat of the Mouth and Throat, and a conſiderable ſharp *Rheum*, or Stoppage in the Noſtrils with frequent Sneezing, and a tickling Cough; this is to be expected, unleſs prevented

by

by timely Bliſtering, which I have often found very ſucceſsful.—A great Sneezing, and ſharp *Rheum* from the Mouth and Noſtrils, ſhew that the *Membrana Schneideriana*, the common Lining to all theſe Paſſages, is greatly affected, and that a Revulſion from it is indicated; for even a few Puſtules in the Throat and Noſtrils are of vaſtly worſe Conſequence than a hundred Times the Number on the external Habit: Great Pain and Difficulty of breathing and ſwallowing are the certain Effects, eſpecially towards the Cloſe of the Diſeaſe; which frequently quite choak the Sick, unleſs you are exceeding diligent with your Gargles, Syringing, *&c.*—Sometimes I have known ſuch a violent Defluxion on theſe Parts, as to cauſe a very profuſe Salivation even at the very Begining; which hath kept the Patients conſtantly awake, excoriated the Tongue, Lips and Throat, and brought on ſuch exceſſive Pain as utterly to deprive them of Sleep, and make Swallowing any Drink, Aliment, *&c.* almoſt intolerable: Here early Bliſtering in the Neck, behind the Ears, *&c.* is indiſpenſably neceſſary.

But ſecondly, when Perſons of weak lax Fibres, and a poor thin Blood, or thoſe, who have undergone lately great Evacuations, are attacked with the Small-pox, withhold your Lancet as you tender the Life of your Patients.—Theſe generally have a ſunk pale Countenance, a weak,

quick,

quick, trembling Pulſe, very great Dejection of Spirits, with a pale crude wheyiſh or limpid Urine, alternate Chills and Heats, little Thirſt, and no great Pain, but a perpetual Heavineſs and Sickneſs at Stomach, Giddineſs, &c. Here, I pronounce it, *Sack and Saffron* are not improper, with ſome eaſy, cordial, nervous Medicines, Sack Whey, Wine and Water, or the like.—But all this may be done without large Doſes of volatile alcalious Salts and Spirits, Snake-Root, Brandy, ſtrong Wine, &c.—And yet I have ſeen pretty large Quantities of Wine given in ſome low depreſſed Caſes, with very great Advantage: Bliſters alſo may be here applied, and ſtimulating Cataplaſms to the Feet; Bathing ſeems not ſo proper.

There is one Thing in a peculiar Manner, that greatly promotes the variolous Eruption in theſe low ſlow Caſes, where the Puſtules do not break forth in a regular Manner, at the uſual Seaſon, but lie buried in the Skin with little or no Protuberance, and leſs Colour; and that is *Vomiting* by a *gentle Emetic*.—Nature almoſt always makes this Effort ſpontaneouſly in this Diſeaſe, and I think we ſhould follow the *Indication*; for it not only in Part throws off the morbific Matter, which primarily affected the Stomach, but alſo the heavy putrid bilious *Colluvies*, that may have been collected in it, the Liver, Gall-Bladder, &c.—It is very notorious

rious that the Action of Vomiting forces off through the Skin, Perſpiration, Sweat, Puſtules. — I know it is objected, that Vomiting drives up too much Blood to the Brain; and therefore is improper in the Begining of the Small-pox: and I think ſo too, if done antecedent to Bleeding in plethoric Conſtitutions; nay I have known very terrible Accidents enſue, where thus injudiciouſly managed.— But let it be conſidered, that, without the Solicitation of Art, Nature is always at it, and makes almoſt perpetual, tho' many Times vain, Endeavours to diſcharge the Stomach: Now it is certain, that by co-operating with her Motions, and aſſiſting her Effort with a proper *Waſh*, we greatly help her Attempt, and the Vomiting even ceaſes much the ſooner; and it is obſervable, that on the compleat Eruption the Vomiting goes quite off, but even that is by this Means very much promoted. — I would have the Cataplaſms to the Feet immediately ſucceed the Emetic, for Reaſons that are very obvious.

The Emetic hath commonly the further good Effect of producing a Stool or two, by which the Inteſtins are unloaded of groſs, indurated Excrements, or any putrid bilious Contents; if this doth not happen, an emollient laxative Clyſter ſhould be forthwith given: And, in many Caſes, a gentle, eaſy, cool Cathartic of Manna, Cream of Tartar, *Glauber*'s Salt, or

Rhubarb

Rhubarb is neceſſary; even if a Diarrhœa is urgent, a Doſe or two of Rhubarb ſhould be given.

Different Conſtitutions of the Air have different Effects on the moſt healthy, much more on the ſick and weak, and of Courſe on Diſeaſes.—It hath been long obſerved, that one Conſtitution of the Atmoſphere promotes, another retards the Progreſs of epidemic Diſorders, particularly of the Small-pox; which at one Time begin in the remoteſt Corner of a Town or City, and ſoon ravage the whole; at another they are carried into the very Heart of them, and yet preſently ceaſe.—The Plague itſelf is commonly ſtopped, by a Change of Air from hot and moiſt to cold and dry.—The very State of the Blood greatly depends on the precedent and preſent Conſtitution of the Air, and it hath been proved, that the Contagion hath different Effects on different States of the Blood.—A due Conſideration therefore of the preſent, and preceding Conſtitution of the Air, is of no ſmall Import in our Method of Cure.

As a continued cold dry Air makes the Fibres ſtrong and very elaſtic, and the Blood denſe and viſcid; one may reaſonably conclude, that Patients, in ſuch a Conſtitution, will *cæteris paribus*, more need, and better bear Bloot-letting, than in a warm, moiſt, relaxing State of the Air; and that they will want more of the

diluting,

diluting, emollient *antiphlogiſtic* Drink, Diet and Medicines: whereas in the latter ſomething more cordial, ſubaſtringent and *antiputreſcent* will be requiſite.

It is certain, in very cold and dry Weather, as alſo when very hot and dry, Perſons in the Small-pox ſpit vaſtly leſs than in the oppoſite Conſtitutions of the Air; ſo that in a very dry Atmoſphere all proper Means ſhould be uſed to dilute the Humors, and promote *Salivation*, ſo neceſſary and ſalutary in this Diſeaſe: — This however in ſome Seaſons, and ſome Perſons, is vaſtly too profuſe and prejudicial; I think more particularly in coldiſh, moiſt, ſlabby Weather, and in Perſons ſubject to catarrhal Diſorders.—I have many Times known the *Salivation* begin ſo ſoon, and continue ſo immoderate, as at length to abrade the common Invelop of the Tongue, Mouth and Fauces, cauſing moſt exquiſite Pain, preventing Sleep and Swallowing, and keeping the Patients in a perpetual Torture. — And therefore I always dread a *premature Salivation*, eſpecially when profuſe and very acrid.

As ſome Conſtitutions of the Air hinder a ſufficient Salivation, others diſpoſe to too much, and that too acrimonious: An epidemic Catarrh ſhall at one Time be only a Diſcharge of a thin, ſoft, inſipid *Mucus*; at another, a profuſe acrid *Gleet*, excoriating the Noſe, Lips, Fauces, *&c.*

—Probably ſuch a Kind of Atmoſphere, as diſpoſes to exceſſive Salivations, may in Part alſo be productive of that crude, *cryſtalline*, *undigeſted Pox*, which we too frequently meet with. For a moiſt, ſlabby, chill Seaſon not only too much relaxes the *contractile* Veſſels, and impregnates the Blood with the cold nitrous Vapors; but withal greatly obſtructs Perſpiration, whence a ſharp, ſerous *Colluvies* is accumulated: and it is chiefly, in ſuch Seaſons, that this Sort of Small-pox is predominant; as the ſmall, warty black Kind, with little or no Salivation, is moſt commonly obſerved during a long continued Courſe of dry North-Eaſterly Winds, very hot or very cold dry Weather.—Doth not this Obſervation hint to us the different Regimen neceſſary in different Seaſons?

Theſe *cryſtalline*, or *lymphatic* Pox never maturate kindly, but the Matter remains crude, and a mere watery *Ichor* to the laſt, and in many Places they run one into another, and form very large Veſications; which at length breaking and corroding all around them, the Patient is ulcerated all over, and appears like a flead Rabbit.— I have ſeen ſome running down under ſuch a Kind of a *Tabes* for twenty or thirty Days together, the ſharp Humors ouzing out, and dripping from them continually, till at laſt they have been *diſſolved in a double Senſe*.—Very frequently

frequently a great Part of this thin crude Matter is re-abſorbed into the Blood, and leaves a vaſt Number of the Puſtules flaccid, empty, or *ſiliquoſe*, as they call it. This creates terrible Diſorders, and plays over the Tragedy again, which generally ends in a fatal *Cataſtrophe*; convulſive *Rigors*, peripneumonic Fever, Delirium, Dyſentery, *Syncope*, *&c.* are the common Conſequences.—However when it goes off by a moderate Diarrhœa, or a very plentiful Diſcharge of full-coloured ſubſiding Urine, the Sick very often recover; but when the Stools are black, bloody, or ſanious, they generally indicate a Mortification of the Inteſtins, eſpecially if the Abdomen is ſwoln, painful and tenſe.—And a *Micturition*, or perpetual Urging to Urine, without any conſiderable Diſcharge, is a very bad Symptom, unleſs it ariſes from Bliſters. — If ever large Sweats are uſeful in the Small-pox, it is in this Kind of them; and I think I have found them ſeveral Times greatly advantageous.

In this *crude*, *ichoroſe*, *indigeſtible Pox* and profuſe *Ptyaliſm*, where the Skin and Puſtules are pale, or lurid, the Pulſe weak, the Urine thin, watery, crude; the warmer Medicines are neceſſary: ſuch as *Pulv. Contrayerv. c. Myrrh*, *Muſk*, *Saffron*, *Camphire*, *Theriaca*, *Mithridate*, *Confectio cardiaca*. Theſe are of vaſt Service in raiſing the Puſtules, and digeſting the Matter, and may be waſhed down with Sack-whey, *Decoct. rubicund.*

a temperate teſtaceous Julep, or a *Diſh of Coffee* now and then with a little thin Milk in it; which I have known, more than once, drank thro' the whole Courſe of the Small-pox with no ill Effect, nay with a very good one; as it manifeſtly quieted the tickling vexatious Cough cauſed by the ſharp thin Rheum.

Here alſo without Doubt Opiates are ſtrongly indicated, and *Theriaca*, *Elixir paregoricum*, or *Tinctura Thebaica* ſhould be given with *Diacodium* frequently, but in ſuch Doſes as to quiet, not ſtupefy the Patient; which indeed is the moſt ſafe Method of giving Opiates in all Sorts of Fevers, and ultimately the moſt effectual; for tho' a large Doſe at once may more immediately procure Sleep, yet it is much leſs refreſhing; but, when it doth not, a Delirium is almoſt always the certain Conſequence, or a long continued Stupor. — In all Events great Doſes cauſe very great Relaxation and univerſal Debility, which nothing but a freſh Doſe after ſome Time, or a warm Cordial will relieve: They are ſimilar in Effect to large Doſes of *ſpirituous Liquors*, which produce temporary Madneſs, or Stupefaction, ending in general Weakneſs, Tremors, and the utmoſt Dejection of Spirits.—Beſides, no one can ſay, what Effect a particular Doſe of Opium will have on a particular Perſon, till he hath tried it: Some have ſuch a peculiar Diſpoſition, that a very ſmall

Doſe

Doſe will greatly affect them; whereas others of nearly the ſame apparent Strength, Conſtitution, *&c.* will take four Times the Quantity with vaſtly leſs Effect. — Some bear *Diacodium* that cannot touch *Opium*: So that it is always prudent to begin at leaſt with moderate Opiates, and in ſmall Doſes.

Yet notwithſtanding this Caution, there are no Medicines whatever that incraſſate thin acrid Humors, abate their Irritation and Defluxion, and maturate the Puſtules ſo effectually as Opiates properly given. — In Truth, when the Puſtules are numerous, we can do very little without them, eſpecially towards the State of the Diſeaſe, when they become exceeding painful. — And yet even here, when the Salivation is extreamly viſcid and difficult, and the Reſpiration ſhort and laborious; we ſhould be very cautious in uſing them, and join with them *Gum ammoniac*, *Oxymel ſcilliticum*, &c.

Nor muſt we in this *lymphatic, or cryſtalline Pox* be ſparing of Bliſters, which, beſides their other good Effects, give a copious Vent to the acrid morbific Humors; and for the ſame Reaſon the large Bladders, which the Puſtules cauſe by running together, ſhould be opened with a Lancet. — Letting out the Matter with a golden Needle, as * *Avicenna* adviſes, is more nice than

* *Avicenna Canon. Medic. Lib.* iv. *Cap. de Variolis, p.* 66. *ex Edit. Plempii.*

neceſſary. Do it as you will, a worſe *Cicatrix* follows than when committed to Nature: But here the Danger ſuperſedes that Conſideration; for a Mortification is ſometimes brought on by the corroſive Matter, and ſome of it withal is continually re-abſorbed into the Blood.

I would alſo adviſe ſome proper Diuretics to be joined with the alexipharmac Medicines, as *Nitre*, *Sal Succini*, *Spirit. nitri dulcis*, and the like. For I have many Times obſerved a plentiful Flow of Urine very happily compenſate the Deficiency of other Evacuations: and if this happens when the Salivation begins to ceaſe, and the Face ſubſides, it is always ſalutary; and, as it is ſo, it ſhould be promoted as much as poſſible; and the Sick ſhould be frequently prompted to diſcharge it, which is greatly facilitated by getting them up on their Knees. For, whilſt lying in Bed, they have many Times neither Inclination, nor Power, to make it; and yet immediately, on being lifted up, they ſhall render it in a large Quantity.

Nothing is more common than for the thin, acrid, variolous Matter to take a Turn down the Inteſtins, and very often in a very violent Manner.—Innumerable Inſtances have occurred in the Small-pox, where a critical Diarrhœa hath ſaved the Life of the Patient; Nature even ſubſtitutes this Diſcharge in Children, for the Salivation in Adults.—We ſhould be very careful

careful therefore never to ſuppreſs it too haſtily; and even when it is profuſe, we ſhould not attempt it, till we have premiſed a Doſe or two of Rhubarb; and then indeed proper Aſtringents, Opiates, *Decoct. rubicund. Decoct. Fracaſt. Tinct. Roſ.* &c. may be uſed; and, when every Thing elſe fails, a Clyſter with *Diaſcordium*, or *Theriaca*, will ſtem the Torrent. But in general we ſhould only moderate it, eſpecially at, or after the State, taking Care however to ſupport the Patient during the Flux with a proper ſtrengthening, ſubaſtringent Diet.

I never obſerved either the *vegetable or the mineral Acids* of any great Service in the crude cryſtalline Pox, but I have often found them highly uſeful in the *ſmall, black, confluent Kind, with Petechiæ*; in which the Putrefaction of the Humors in general ſeems much greater, and the Matter of the Puſtules is vaſtly more fœtid and ſanious than in the *cryſtalline*, the *Ichor* of which many Times hath little or no Stench at all.— Tho' perhaps ſcarce one in four recovers from this ſmall, black, confluent Kind (and when attended with black Spots, bloody Urine, and other Hæmorrhages, ſcarce one of a thouſand) yet ſometimes great Things have been done by mineral Acids, aſtringent Alexipharmacs, and Preparations of the *Cortex Peruv.* when the *Petechiæ* have been numerous, and the Small-pox very black, ſmall and confluent, nay and even

attended with ſome Degree of Hæmorrhage.—I have known ſome Inſtances of a Recovery, under theſe Circumſtances, by thoſe Methods; but never met with one, who ſurvived the Diſeaſe, that made bloody Urine, unleſs it was manifeſtly from *Cantharides*.——— But as this Kind of Pox is of very long Duration, and the Patient (if he at length gets over it) continues between Life and Death as it were for many Days together; the above Medicines are not only neceſſary, but he ſhould be alſo plentifully ſupported, in the *laſt Stadium* eſpecially, with proper *analeptic* and *antiſeptic* Drinks and Diet; till at laſt, like the Serpent, Emblem of recovered Health, he crawls out of the *black Exuviæ* into new Life and Vigor: and truly I have ſeen ſome Caſes, which ſeemed more like a Reſurrection than a Recovery.

When I recommend the Uſe of the *Bark*, in ſome Kinds of the Small-pox, I do it upon ſufficient Experience and Authority; whoever is not ſatisfied with mine, may conſult the great Dr. *Mead* *, Prof. *Monro* †, and Dr. *Wall* § on this Matter.—I commonly begin with the *alexipharmac Tincture of the Bark* above deſcribed, well acidulated with Elixir of Vitriol; and then proceed to the Decoction, or Extract, if neceſſary. —But let me ſtrongly caution againſt giving

* *De Variolis & Morbillis, p* 45. † *Medical Eſſays, Vol.* v. *p.* 102. § *Philoſoph. Tranſact.* No. 486.

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any Thing of this Kind, where the Reſpiration is difficult, the Body very coſtive, and the Abdomen hard and tumid, at leaſt till you have removed thoſe Symptoms.— I muſt add, that the *Tinct. Cort. alexipharm.* is particularly ſerviceable in the *lymphatic Pox*, and ſhould be given ſoon after the compleat Eruption, to promote, as much as poſſible, ſome Degree of Maturation: It is certain the *Bark* commonly brings on a laudable Digeſtion in gleety Ulcers.—*Morton* * gave the Bark, not only in the *Decline*, but during the *Maturation* of the Pox, if he found any Remiſſion; and that too every third or fourth Hour, to the Quantity of a Drachm; and I know this hath been practiſed many Years ago with Succeſs by ſome other eminent Phyſicians.

The great Difficulty and Danger of this Diſeaſe chiefly comes on at the *State*, or *Turn* of the Pox (which happens much ſooner in ſome Kinds than in others, the milder the Pox, always the ſooner); for however eaſily Matters may have proceeded till this Time, we are now (*viz.* the ſeventh, ninth, or eleventh Day from the Eruption) very often ſurpriſed with a very ſhocking Change, and terrible Symptoms. The Swelling of the Face ſinks at once, the Salivation ſuddenly ceaſes, the Puſtules grow

* *De Variolis, cap.* ix. *p.* 250.

flaccid,

flaccid, the Interſtices pale, lurid, or aſh-coloured; a Rigor comes on, a Fever ſucceeds with great Difficulty of Breathing, Faintneſs and Sickneſs; a perpetual Anxiety, Tremors, Subſultus, Delirium, *&c.* ſoon follow.— Such a Change is to be expected, if the Puſtules break out very numerous the firſt, ſecond, or third Day from the Seizure; if after the compleat Eruption they do not fill well, keep up round and properly pointed, but grow flat, and run abroad, or have a ſmall *Dimple*, or *black Speck* in the Middle; if they are not ſurrounded with a *florid Baſe*, and look themſelves wan, or darkiſh coloured:—If the Urine withal hath continued, or grows pale, crude and thin, and the *carotid* and *temporal Arteries* throb much, no ſmall Danger is impending.— Here then the Phyſician muſt in a more eſpecial Manner watch his Patient with the utmoſt Diligence; for the Affair of Life and Death is now to be tranſacted in a few Hours:— and, though no abſolute Rules can be well laid down in a Diſeaſe, that is attended with ſuch a great Variety of Accidents as the Small-pox; yet perhaps the following Hints may not be altogether uſeleſs.

1*ſt*,— If the Swelling of the Hands doth not regularly ſucceed the Tumor of the Face, and the Swelling of the Feet that of the Hands, it is juſtly reckoned an ill Symptom; for this is a regular and critical Tranſlation of the mor-

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bid Humors to thoſe Parts, and commonly happens when the Salivation begins to abate, and the Face ſubſides. Where therefore Circumſtances are threatening, I would adviſe the Application of Epiſpaſtics to the *Wriſts and Ancles*, a little before we expect the Tumor of the reſpective Parts ſhould come on; for theſe not only more certainly draw the Humors there, but alſo give them Vent: And I think the Uſe of emollient *Cataplaſms*, or *Fotus*, to the Parts ſhould for ſome Time precede the Bliſters, as they would alſo tend to ſolicit theſe critical Tumors. — *Baglivi* * ſays he ordered Sponges ſoaked in emollient Decoctions with great Succeſs. — Sometimes indeed Nature, of her own Accord, throws the morbid Matter on the Extremities with ſuch Violence, as to create great Inflammation, Tumor and moſt exquiſite Pain; which nothing will ſo effectually relieve as emollient Fomentations, by relaxing the Parts, and opening the Pores.

The foregoing Method I recommended above twenty Years ago †, and have ſince practiſed it in Abundance of Inſtances with great Advantage.—The premature Receſſion of critical Tumors is always of very dangerous Conſequence, witneſs even the common Gout: inſomuch that we are many Times obliged to fix it by acrid

* *De Variolis & Morbillis.*

† *Philoſoph. Tranſact.* No. 390.

Cataplaſms. — In the above Caſe Bliſters not only attract, but diſcharge, the morbific Matter. I very frequently add *Cantharides to the Cataplaſms*; and I find it is now a Practice with ſome very great Phyſicians to apply Bliſters to the Soles of the Feet, in Caſes of Danger.

2*dly*,—If Heat, Head-ach, Sickneſs and Load at Stomach, great Reſtleſſneſs, or Stupor, come on about the ſixth or eighth Day from the Eruption, the Body being coſtive, as moſt commonly it is; a plain Clyſter of Milk, Sugar and Salt, ſeldoms fails of giving immediate Relief: and this is eſpecially neceſſary, when the Sick make frequent but vain Efforts to Stool. For the Excrements, baked up by Heat and long Retention, are crowded into the *Colon* and *Rectum*; where preſſing on the Bottom of the *Aorta*, *Iliacs*, and Neck of the Bladder, they hinder the free Deſcent of the Blood to the lower Parts, whence the Head and Breaſt are overloaded: Beſides they ſuppreſs the Urine, and neither Wind, Stool, nor Water, can be diſcharged till the indurated Excrements are ſoftened, and the Guts relaxed, lubricated, and irritated to their Office by a proper Clyſter. — Indeed I ſeldom ſuffer my Patients, particularly young Perſons, to grow ſo exceeding coſtive: for I generally order an emollient Clyſter, if neceſſary, to be injected every ſecond, third, or fourth Day from the very Begining, till I

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enter on the Uſe of gentle Purgatives; which keeps the Patient much cooler, and renders the Uſe of Anodynes much more ſafe and effectual: For very often they will have little or no Effect, till the Body is unloaded, or bring on a comatoſe Diſpoſition.

And yet, *3dly*,—Anodynes are almoſt always proper, nay neceſſary, in the Small-pox, eſpecially at and towards the Criſis: were it for nothing but to aſſwage the Pain from the Inflammation of the Skin and Puſtules, they would be required; for if one Boil is attended with ſo much Uneaſineſs, what will ten thouſand occaſion? However the Pain and Soreneſs complained of, is generally a good Symptom: —It is certainly a very bad one, when neither the Skin nor Puſtules inflame or grow painful; for it argues a great Deficiency of the *Vis Vitæ*, Want of a due Circulation in the extream Capillaries, and an univerſal *Torpor*.—Let me further add, that towards the State eſpecially, the Opiates ſhould be given early in the Evening, before the Exacerbation comes on, and in larger Doſes; and if Need be, oftener repeated.—*Diacodium* here ſeldom proves ſufficient, unleſs in Children.—The Doſe of the Anodyne particularly ſhould be always encreaſed the Evening before we expect the Criſis, in order to quiet the Tumult, which generally comes on

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the enſuing Night; for, as *Hippocrates* * obſerves, the Night before the Criſis, in all Fevers, is moſt troubleſome. When the Patient is very feveriſh and hot, I find it beſt to give the Opiate with ſome *Acid*, or out of a *ſaline Draught*; but, when low and languid, with *Theriaca*, or ſome *Alexipharmac*.

4*thly*,—If at the Approach of the ſecondary Fever the Pulſe beats very quick, hard and ſtrong, the carotid Arteries throb greatly, the Heat grows intenſe, the Breathing very difficult, and an acute Pain of the Head, or more or leſs of a Phrenzy comes on; you are to bleed immediately, or in a very ſhort Time the Caſe will be irrecoverable. — It is obſervable, that the Blood drawn, under ſuch Circumſtances, is extreamly viſcid, and as buffy as in the higheſt Pleuriſy: It is very evident, that it is in a very inflammatory State, from the Ophthalmies, Quinſies, Peripneumonies, Rheumatiſms, and external Inflammations, which commonly ſucceed.

But 5*thly*,—If on the contrary the Pulſe flags, the Patient faints, the Puſtules and the Interſtices grow pale, ſhrivelled and ſunk, or livid, the Extremities coldiſh or clammy; you can ſcarce give too warm Medicines, Drinks, &c. nor apply too many Bliſters: I have ſeen

* *Aphoriſm* 13. *Sect.* ii.

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very large Quantities of warm Wine given under ſuch Circumſtances with ſurpriſing Succeſs.

6*thly*,—About the Cloſe of the *third Stadium* of the Small-pox, the Salivation commonly abates much, and the Matter very often grows ſo exceeding thick and glutinous, that it is ſpit off with the utmoſt Difficulty, and threatens Suffocation every Minute almoſt, unleſs perpetually deterged by proper Gargles, Syringing, &c.— I know no *Gargles* better in this Caſe than *Cyder* and *Honey*, or *Vinegar*, *Water*, and *Honey*, or *Oxymel ſcilliticum*, with a little Nitre or crude *Sal ammoniac*: Muſtard alſo may be boiled with Advantage in the Gargles, when a ſtronger Stimulant is wanting— The vegetable Acids are much more ſaponaceous and abſterſive than Spirit of Vitriol, though more commonly uſed.— Many Times all theſe are ineffectual, and nothing but an actual Vomit will relieve; *Sydenham* vomited in this Caſe with *Vinum benedictum* to ℥iſs. —We have much milder but equally efficacious; nay *Oxymel ſcilliticum* frequently given many Times ſucceeds, by gently puking, and eaſing both Expectoration and Reſpiration.— Beſides it hath the further Advantage of promoting Urine and Stool, which are very often deficient at this Time of the Diſeaſe; but, when the Caſe is urgent, it ſhould be quickened by a Decoction, or Infuſion of *Ipecacoanha*. I have had Honeſty and

Reſolution

Reſolution enough to put this in Practice ſeveral Times, where this was the *derniere Reſſource*, and thereby have ſometimes evidently ſnatched my Patient from the Jaws of Death, though at the Riſque of my own Reputation; but truly ſometimes alſo I have loſt both. — But I ſhall ever be of *Celſus*'s Opinion, to try a doubtful Remedy rather than none. — It is not very uncommon to find the Tongue and Fauces covered with a vaſtly thick, adheſive, whitiſh, or brown *Pellicle*, ſo that they look as if they had been *parboiled*; and the *Oeſophagus* and *Aſpera Arteria* are commonly in the ſame Condition: This neither Vomit, Gargle, nor aught elſe will remove, and is a very bad Symptom, as it ſhews there is no Manner of Secretion through the Glands of the Parts.

The great Tenacity of the Mucus of the Mouth, Fauces, *&c.* many Times ariſes from Want of drinking freely, through the Courſe of the Diſtemper.—But this is abſolutely neceſſary to dilute the Blood, ſupport the Salivation, fill the Puſtules, waſh off the morbid acrid Salts, and ſupply the Veſſels with more wholeſome Fluids: The very Aliment in this Diſeaſe ſhould be, nay muſt be, chiefly liquid; as Solids, for the moſt Part, can be neither reliſhed, nor ſwallowed.—In the black, confluent Small-pox you muſt drink, or die: — Thin acidulated Whey, *Decoct. Luſitan.* Gruel, or

Water

Water with Rheniſh or ſmall French White-wine, Cyder and Water, or the like, are exceeding proper; and if either Petechiæ, or Hæmorrhages, appear, Tincture of Roſes, or Claret and Water well acidulated.

But, *7thly*, — When the Incruſtation is perfectly formed, and the Salivation abates, we muſt ſtudy to promote ſome other Evacuations; for nothing now is to be further thrown off on the external Habit, little or nothing now can tranſpire through the cruſty, ſcaly Skin, which invelopes the Body like a Coat of Mail, or rather, in its Conſequences, like the poiſonous Shirt of *Hercules*: for it not only vaſtly hinders Perſpiration, but alſo confines the *Pus* and *Sanies*, which grow every Hour more and more putrid, and, being continually reſorbed into the Blood, bring on, feed, and augment the ſecondary Fever.

If we can keep up the Salivation, and promote a due *Flow* of well concocted Urine, at this Period, Things go on tolerably well; but, very often, they both greatly fail all on a ſudden, and the Patient falls into the utmoſt Danger. — Here all Endeavours ſhould be uſed to renew theſe Evacuations; more Bliſters ſhould be forthwith laid on, and an emollient laxative Clyſter immediately injected: Expectorating Mixtures likewiſe of *Oxymel ſcilliticum*, *Lac ammoniac*. &c. ſhould be frequently uſed.

Moreover, it is of no ſmall Advantage at this Time of the Diſeaſe to ſhift the Linnen of the Sick, which is now grown exceeding foul, ſtiff and ſtinking, and become vaſtly uneaſy to them: — Beſides it very much pollutes the Air of the Chamber, and renders it ſo very unfit for Reſpiration, that even the moſt Healthy can ſcarce bear it; nay it not only hurts the Breathing, but the *Miaſmata* of this poiſonous *Mephites* are continually paſſing into the Blood again through the *Vaſa inhalantia*, Lungs, *&c.* and further corrupt the Blood. It is ſurpriſing to find how greatly the Sick are refreſhed on changing the Air of the Room, by prudently opening the Windows and Doors, and removing the ſtinking Linnen, *&c:* — They have new Life, as they frequently and properly expreſs it; for freſh Air is the Breath of Life. — It is certainly of the higheſt ill Conſequence to confine ſuch putrid Air, and the Sick in it. — The abſurd Method of making a Kind of *Hoſpital Chamber* in a Houſe, and crowding up two, three, or more Sick in it, is a moſt dangerous Practice, and I have often known it manifeſtly fatal: — The Stench, the Groans, the Cries of one diſturb and offend the others; it is rare that they ſleep all together, but they are too often kept waking ſo: It is bad Living by ſuch bad Neighbours. — Whatever may be pretended, there is no Manner of Danger in ſhifting

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ing the Sick, provided it be carefully done into very dry warm Linnen; but it is a ſilly Notion to have the Shirt, or Shift, worn by another Perſon for twelve or twenty-four Hours before it is put on the ſick Perſon.—Can it not be made fully dry and warm without ſo doing? Will not the Perſpiration, or Sweat, of the moſt Healthy dirt and damp it?

But of this enough: I return to the Affair of Evacuation, and ſhall conclude this Head with ſome Obſervations on Purging in the ſecondary Fever of the Small-pox.

When the Salivation proceeds regularly, the Puſtules keep up and maturate kindly, the Swellings of the Face, Hands and Feet come on in due Seaſon, and the Patients ſleep quietly, and breathe freely; all Things are well, and Nature is moſt effectually doing her own Work, and ſhould be properly ſupported in it, but never diſturbed.—— Here I even abſtain from Clyſters, though the Patient may have been coſtive for ſeveral Days together, till after the compleat Incruſtation; and then they are proper to prepare for the ſucceeding Purges, which without all Doubt are then neceſſary.

But it very often, nay almoſt always, happens in the *coherent* and *confluent* Pox, at, or before, this Period, that more or leſs of a *ſecondary Fever* comes on; partly from the Reſorption of the Matter of the external and in-

ternal Puſtules, partly from the ſuppreſſed Perſpiration, and partly from the putrid *Colluvies* of the inteſtinal Canal; which cannot but be very conſiderable, as undoubtedly Part of the morbific Matter, ſeparated by the Glands of the Mouth, Fauces, *&c.* is ſwallowed, and a great deal more muſt be ſecreted by the Glands of the Guts, biliary Ducts, *&c.* into the Inteſtins: For, as vaſtly leſs than uſual now paſſes off through the Skin, a much greater Quantity of Humors muſt fall on the Bowels; it being a well known Maxim, that the Leſſening of one Evacuation is the Encreaſe of another, and alſo that there is a peculiar Conſent between the Skin and the Guts: To all this likewiſe is added the purulent Matter of the variolous Puſtules, that may happen to be in the Stomach and Inteſtins. — So that there cannot but be a great Lodgment of very putrid Matter in the firſt Paſſages, which grows the more and more virulent, the longer it continues there, and is perpetually paſſing again into the Blood, through the *abſorbing Veſſels of the Guts*, and becomes a Fewel to the Fever, which Nature endeavours even this Way, partly at leaſt, to throw off.—Should it remain there then, or ſhould it be carried off? The Anſwer is obvious. — Nature of her own Accord commonly attempts it with the greateſt Advantage in the Adults, and almoſt always in Children, to whom

whom a Diarrhœa is a Kind of *ſuccedaneum* to the Salivation of elder Perſons. — Is not this then a ſufficient Indication how to relieve her at ſuch a Juncture? And in Truth, what horribly fœtid, putrid, large Stools do we obſerve in this Diſtemper, on the Uſe of a Clyſter, and more eſpecially after a Purgative, I mean at the State, or in the Declination? Nay this Maſs of Corruption lying long in the Guts, and growing daily more putrid, becomes at laſt ſo extreamly acrid as to corrode them; at leaſt ſo greatly irritates them, as to bring on that very Diarrhœa, or Dyſentery, which ſome ſo vainly fear will ariſe from a gentle Cathartic.

But further, if Nature, neither by her own Effort, nor the Help of Art, is capable of keeping the morbific Humors from falling on the more vital Parts, but, from an unfortunate Tranſlation of it, is like to ſink under its Weight; as upon a ſudden Retroceſſion of the Tumor of the Face, and Hands, a premature Suppreſſion of the Salivation, or the like; doth it not ſeem neceſſary to carry off the offending Matter by ſome other Outlet, as particularly by the Guts, which are much more eaſily and certainly ſolicited to a Diſcharge than the Pores of the Skin, the urinary Paſſages, or the *ſalivary Ducts?* — Indeed when the Salivation of Courſe ceaſes, in my Opinion, it ſeems proper to promote ſome other Evacuation in its Room;

and if we uſe a Clyſter, or a gentle Purgative, we may readily reſtrain too great a Diſcharge by an Opiate.

It hath, and may be objected to this Practice, that it tends to draw the noxious Humors from the external Habit to the Vitals. — But to this I anſwer, that Purging is more eſpecially pleaded for, when the Incruſtation is formed, and the morbid Matter concocted, at leaſt as much as ever it will be (for a due Concoction, or Maturation, is never to be expected in the lymphatic Kind); that it is particularly contended for, when an unfavourable *Metaſtaſis* of the morbid Matter hath already happened, and cannot well and readily be removed by other Means; that this is ſubſtituted in the Place of a ſuppreſſed critical Evacuation, and that Nature attempts, nay ultimately requires a Diſcharge this Way; that there is no other Method of diſlodging the putrid Colluvies in the Inteſtins, that feeds the ſecondary Fever, but this; and that whenever there is a great Quantity of foul corrupt Matter in the firſt Paſſages, of what Kind ſoever, there is a conſequent Fever: witneſs verminous, crapulary, bilious Fevers, which cannot be carried off but by purging and vomiting; laſtly, that every one allows the abſolute Neceſſity of purging at the Cloſe of the Small-pox; otherwiſe Boils, indurated Glands, foul Ulcers, carious

Bones,

Bones, rotten Lungs, or a conſuming Hectic, certainly ſucceed.

But when I recommend Purging in the ſecondary Fever of the Small-pox, I would always adviſe to begin with the moſt lenient cool Cathartics: The *draſtic*, *ſcammoniate*, *aloetic Purges* are certainly highly improper till the Fever greatly abates; then indeed ſome ſtronger Purgatives (to which I always join ſome *Calomel)* ſhould be uſed. The imprudent Uſe of ſtrong hot Purges at the Begining, the not giving a proper Anodyne after the Purges, and the Want of duly ſupporting the Sick during the Operation, have, I am perſuaded, been frequently attended with ill Conſequences; but am very ſure, that Purging in the ſecondary Fever, in the Manner I have adviſed, is of great Service, and I have ſeen very many Inſtances of its great Succeſs.

A
DISSERTATION
ON
PLEURISIES *and* PERIPNEUMONIES.

CHAP. I.

Of the Power of the Winds and Seaſons in producing theſe Diſtempers.

AS Pleuriſies and Peripneumonies are, and always have been, ſo very common, *Hippocrates* hath ſaid much more upon them than on any other of the acute Diſeaſes; and his Obſervations are found moſt perfectly juſt, and will be ever highly worthy of a diligent Peruſal by all Phyſicians. — One of them is, that cold north-eaſterly Winds bring on Diſorders of the Breaſt, Sides and Lungs *;

* *Aphoriſm.* 5. *Sect.* iii.

and

and this hath been found conſtant and true by all his Succeſſors. —— Not but that Pleuriſies, and Peripneumonies eſpecially, are frequently obſerved in other Conſtitutions of the Air, the latter very often ſupervening other acute Fevers: Yet ſtill it is certain, theſe two Diſeaſes are much more frequent, when a cold dry Seaſon, and northerly and eaſterly Winds have continued for any conſiderable Time.

The obvious Effects of dry cold Winds, on the human Body are, conſtringing the whole external Habit, making the Skin more dry and corrugated, ſhutting up its Pores and leſſening Perſpiration, at leaſt ſuffering only the thinner Part of the Humors to fly off. By a dry Cold alſo the whole Syſtem of the Fibres is made more ſtrong, firm and elaſtic, and the Action of the Veſſels, on the contained Fluids, more vigorous and forcible; whence a briſker Circulation, more Heat, Spirit and Activity; by which the Globules of the Blood are rendered more denſe, compact and numerous, and the whole Maſs of Humors diſpoſed to a greater Degree of Tenacity. — It may be added, that as cold and dry Air is almoſt always very heavy and elaſtic, by its greater Preſſure on the Body, it will co-operate with its cold and dry Qualities, in producing greater Effects.— It is Fact, that, *cæteris paribus*, Blood drawn, in ſuch prevailing Conſtitutions of the Atmoſphere,

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is conſtantly found more denſe and viſcid than in long moiſt warm Seaſons; — and that Perſons ſubject to aſthmatic Diſorders ſuffer moſt during the Continuance of north-eaſterly Winds.

However all theſe Effects may conſiſt with high Health, and commonly do ſo; and therefore *Celſus* (though reckoning up the Diſorders produced by cold northerly Winds) ſays * *ſanum tamen corpus ſpiſſat, & mobilius atque expeditius reddit.*

But alas! ſuch is the frail Eſtate of mortal Man, that the Tranſition from high Health to great Diſeaſe is moſt eaſy and exceeding common: For this high, rich, denſe Blood, agitated by ſtrong and vigorous Veſſels, is extreamly apt to be wrought up to ſuch a Degree of Viſcidity, as makes it unfit to paſs the ultimate Ramifications of the Arteries; from which Obſtructions, and conſequent Inflammations, moſt eaſily ariſe; eſpecially on any Exceſs in Diet, or Exerciſe, on obſtructed Perſpiration, or any ſudden Alteration in the Temperature of the Air, which may rarefy the Humors in general much more ſuddenly, than it can relax many of the particular Veſſels. —— Whence, by the bye, thoſe Pains in Limbs formerly broken, in *Cicatrices* of old Wounds,

* *Lib. II. Cap.* i.

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in callous Concretions on the Toes, *&c.* (where the minute Veſſels have been rendered more ſtraitened in their Capacities, and more rigid in their Coats) are obſerved to rage on ſudden Changes of Weather into ſtormy, or wet and warm; which nothing ſo ſoon removes as emollient Fotus, by enlarging and ſoftening the Veſſels:— Every old Woman tells you to ſoak your Corns, when they pain you.— And this Method alſo is of very great Service in thoſe Pains of the Side, which often remain after Pleuriſies, or Pleuro-peripneumonies, for Years together, and which are owing to a preternatural Coarctation of the Veſſels by the paſt Diſeaſe, and the Adheſion of the Lungs to the Pleura: And which many Times, on great Rarefaction of the Blood, Changes of Weather, *&c.* bring on the Diſorder afreſh, and make the Patient ſubject to frequent Returns of it for ever after.

It is true indeed, that Perſons of a very viſcid State of Blood and rigid Fibres are ſubject to inflammatory Diſorders of all Kinds, in all Seaſons; but ſome Conſtitutions of the Air however are not only more apt to produce this inflammatory Blood than others, but alſo diſpoſe more to Inflammations of particular Parts. For when very cold Air conſtringes the external Habit, corrugates the Skin, and ſhuts up the Pores, more Blood than ordinary is forced

on

on the internal and more vital Parts, particularly on the Lungs; which, by the vaſt Expanſe of their internal Surface (greatly exceeding that of the whole Skin *) are deſigned by Nature to aſſiſt the Skin, in exhaling off the ſuperfluous acrid and vapid Humidity of the Blood; and therefore, where the Pores of the Skin are in any Degree ſhut up, the Exhalation from the Lungs ſhould compenſate the Defect of the cuticular Diſcharge.—And we in Fact find, that, immediately on taking Cold, the Lungs are more or leſs affected by Cough, a large Diſcharge of thin *Rheum*, and very often in a much ſeverer Manner.— But when the very cold Air is likewiſe continually admitted into the Lungs, it alſo corrugates their internal Membrane, ſhuts up its excretory Ducts, and ſo hinders a due Exhalation, and Expiration, if I may ſo ſay, of the Surcharge from the retained *Perſpirabile*.——It may be added, that the Air, by its great Degree of Coldneſs and Nearneſs to the Blood in the pulmonary Veſicles and Cellules, is apt to congeal, at leaſt greatly to condenſe it: There have been many Inſtances, where extream cold Air hath cauſed an abſolute and ſudden Stagnation of the Blood in the Lungs, and killed almoſt inſtantaneouſly. We find often that very cold Winds ſo af-

* *See Dr.* Hales's Vegetable Statics, *p.* 239.

fect,

fect, and contract even the Skin of the Hands, Arms and Face, as to make it rough, cracked, and sore; why may we not suppose it hath a similar Effect on the more tender and delicate Membrane of the *Trachea*, *Arteria*, *Bronchia*, &c? In Truth the Cough, Hoarseness and Soreness, we commonly feel in breathing such a cold Atmosphere, shew that it really hath so. The *Pharynx* and *Larynx* are very often so affected by severe cold Winds, as to suffer violent Inflammations, Tumors, *&c.*

It is easy to conceive then, where a greater Quantity than ordinary of dense sizy Blood is thrown on the Lungs, and where the Vessels of the Lungs themselves are inordinately constringed, and the excretory Ducts and Orifices of the Glands of the Wine-pipe, Bronchia, *&c.* are considerably obstructed; that peripneumonic Inflammations, will be very readily generated.

But further, a very viscid Blood, the natural Consequence of a long, dry, cold Constitution of the Air, will not only dispose to Inflammations in general, and to peripneumonic Disorders in particular, but also to the pleuritic. For as the Arteries, expanded on membranous Parts, are extreamly small; they are of Course liable to be obstructed by a gross sizy Blood: And hence Rheumatisms are also very common in such Seasons, the membranous Parts

of

of the Muſcles being inflamed by a viſcid Lentor.—But the *Pleura* is a Membrane very largely extended, and ſpread over with an infinite Number of very ſmall Arteries, the Ramifications of the Intercoſtals, which, ariſing nearly at right Angles from the *Aorta*, by that Means receive the more viſcid Part of the Blood, as being the lighter (the heavier paſſing on nearer the *Axis* of the great Artery) and hence are exceeding ſubject to Obſtructions from an inflammatory Lentor: And ſo are likewiſe the intercoſtal Muſcles, and *Perioſteum* of the Ribs, which receive the Blood, in Part at leaſt, from a like Diſtribution of the Arteries.

Hence Pleuriſies, as well as Peripneumonies, are found exceeding common, or epidemic, in very cold dry Seaſons; and in high, cold Situations, much expoſed to north-eaſterly Winds, they are commonly endemic. Indeed pleuritic Diſorders, properly ſo called, are apt to bring on the peripneumonic, and very frequently do ſo, for Reaſons which will be given hereafter. —Hence it comes to paſs, that we find many more Pleuriſies complicated with peripneumonic Symptoms, than true and exquiſite Pleuriſies; and this compound Diſeaſe the Moderns very properly call a *Pleuro-peripneumony*.

As theſe two Diſeaſes are ſo often conjoined, the Ancients, as well as many of the Moderns, have quite confounded them, aſcribing the ſame

Symptoms

Symptoms both to one and the other indifferently; but there is a real Difference certainly both as to the Seat and Symptoms of these two Disorders. Indeed the Ancients, as *Cælius Aurelianus* * informs us, were greatly divided in their Opinion as to the Seat of a Pleurisy, some affirming it to be an Affection, or Passion of the Pleura, properly so called; others of the Lungs and its Membranes: Both which Opinions have had their respective Abettors also amongst the Moderns. — I flatter myself, the following Remarks will more fully explain their Nature and Method of Cure.

CHAP. II.

Of the Peripneumony and Pleuro-peripneumony.

A Peripneumony, in the largest Sense of the Word, is a Disease so common, either as an original Malady, or consequent to some other, that its Nature should be diligently studied by every Physician; as it is a morbid Affection of one of the principal Organs of Life, is very frequently attended with the utmost Danger, and requires very different Treatment in its different Stages.— Besides there are very different Degrees, I might say Species, of this Disease, which demand a particular Attention, and a Method of Cure peculiarly adapted to each.

* *Lib. II. Cap.* xvi.

For

For a Peripneumony, arising from a violent Inflammation of the Lungs, by a very sizy dense Blood obstructing very many of the pulmonic and bronchial Arteries, is a quite different Disease, and requires a very different Treatment from an Obstruction of the Lungs by a heavy, viscid, pituitous Matter; as is the Case in what late Writers call a *Peripneumonia notha*.— And this again should be managed in a Method very different from that, which is proper in one depending on a thin, acrid Defluxion on the Lungs. And yet there are some general Symptoms common to them all, particularly a Load at the Breast, a short difficult Breathing, a Cough, and more or less of a Fever: which few obvious Symptoms however give the general Denomination of a Peripneumony, tho' in Nature very different, and to be treated very differently.— For in the *first Case* speedy, large, and repeated Bleeding is absolutely necessary to lessen the Quantity and Force of the too rapid Blood, with the most cooling, relaxing, diluting Diet and Medicines. —— In the *second* some Blood indeed may be drawn off, at the very Begining, to prevent the further Impaction of the obstructing Lentor, and make Room for proper inciding diluting Attenuants; but if you are too busy with your Lancet, you weaken the Patient, not the Disease, which requires Attenuants, Detergents, Expectorants, gentle Pukes and proper Purges,

Purges, with the free Uſe of Bliſters; which I think are quite naught in the former Caſe, unleſs towards the Cloſe of the Diſeaſe, when they may be ſometimes neceſſary. — The *third Caſe* may require Bleeding alſo, to hinder the Advance of the Inflammation; but here the ſoft, lubricating, demulcent Method, with ſome proper and frequent Opiates in moderate Doſes, are demanded, which in the *ſecond Caſe* would be utterly deleterious.

Great Regard muſt be had alſo to the different Stages, even of the ſame Kind of Peripneumony, and the different Symptoms that attend it. For, tho' at the Begining of a ſevere Inflammation of the Lungs, large and repeated Bleeding may be indiſpenſably neceſſary; yet if, after the ſecond or third Bleeding, the Patient begins to ſpit off freely a well concocted Matter tinged with Blood, you are to reſtrain further Evacuation that Way; otherwiſe you weaken your Patient without Neceſſity, and often entirely ſuppreſs the Expectoration to his utter Ruin.—And yet if a conſiderable Quantity of thin, florid, ſpumous Blood is ſpit off, you ſhould draw more Blood, quiet the Cough with cool Opiates, as *Diacodium*, or the like, and give pretty freely of proper *Acids* with ſoft cooling *Incraſſants*: Whereas if it is a thin, gleety, dark-coloured Matter that is expectorated, it is generally a Mark of greater Malignity, and

that the Blood is in a putrefying diſſolving State, and will by no Means bear a large Emiſſion of Blood.—In ſhort the Diſeaſe is quite another Thing, when the Inflammation is forming, from what it is when the obſtructing Matter is concocted, or actually ſuppurated.

But to be more particular.———If a Perſon juſt before in full Health, ſhould on violent Exerciſe, Debauch, or a ſevere Cold, be ſeized with a great Shivering, ſucceeded by burning Heat, very much Oppreſſion and Load at Breaſt, with a very difficult, quick, hot Reſpiration, and more or leſs of a Cough; Blood is to be drawn immediately, in a pretty large Quantity from a large Orifice: The ſtronger and more plethoric the Patient, the larger the Quantity, yet ſo as to ſtop on the Appearance of Faintneſs, cold Sweat in the Forehead or Face, Yawning, and the like; which may in a great Meaſure, many Times, be prevented by bleeding the Perſon in a recumbent Poſture.— In general fat corpulent Perſons do not bear Bleeding as well as the lean and muſcular, as neither having ſo much of the red globular Part of the Blood, nor their Veſſels ſo elaſtic.—Beſides the Age and Size of the Perſon are to be conſidered: It would be abſurd to draw as much from a Dwarf as a Giant, tho' both ſtrong in their Kind; the very young and very old are not the propereſt Subjects for it, tho' both ſometimes require it.

Sanctorius

Sanctorius obſerves, that antecedent to Fevers the Body grows more heavy, and of Courſe more plethoric; and the *Rigors* ſhew a *Viſcoſity* in the Blood, that ſtagnates in the Extremities of the capillary Arteries: (it may be even ſeen in the Nails, Lips, *&c.* by their growing pale and livid) and this encreaſing *Lentor* will of Courſe leſſen Perſpiration, and encreaſe the Quantity of Humors.—Generally the more violent the *Rigor* or *Horror* is at the Attack, the more violent is the ſucceeding Fever; and this may in ſome Meaſure alſo guide us in drawing off Blood, as we muſt expect, on a violent and long continued Rigor, a high Fever, and a very viſcid State of Blood.

If the Symptoms are not relieved by the firſt Bleeding, after eight, ten, or twelve Hours more Blood ſhould be drawn, nay even ſooner if they become more aggravated; and this muſt be repeated, if the Fever, Oppreſſion, Anxiety and Difficulty of breathing encreaſe, or continue equally ſevere; eſpecially if the Blood drawn appears very firm and denſe, or covered over with a tough yellowiſh *Coat*, or *Buff*, as it is called: which however very frequently doth not appear till the ſecond or third Bleeding, tho' the Symptoms may indicate a very high Inflammation. —— And this very often happens by the Trickling of the Blood down the Arm from a ſmall Orifice, too ſtrait a Ban-

dage, or by the Sliding of the Skin over the Orifice: by any of which the Blood is hindered from ſpouting forth in a full Stream.

This denſe buffy Appearance of the Blood, with a firm ſtrong Pulſe, will warrant the drawing off Blood, till the Reſpiration at leaſt becomes more free and eaſy. — But if the *Craſſamentum, or concrete Maſs*, is of a very looſe Texture, and not covered with a ſizy Coat or Buff, and the Pulſe ſeems to ſink, flutter, or grows more weak and ſmall on Bleeding; it is Time to deſiſt, and try other Methods of Relief.— A thin, bluiſh *Film* on the Blood, with a Kind of ſoft greeniſh Jelly immediately underneath, (the *Cruor* itſelf being livid, looſe and ſoft, with a turbid reddiſh or green Serum) is a Sign of a very *lax Craſis* of Blood, and *great Acrimony*, which will not bear large Quantities to be drawn off.—Nay even a very florid, thin, looſe Blood, that gives off little or no Serum after ſtanding ſome Time, however *ſpecious* it may appear to unexperienced Perſons, is far from being the *good Blood* they imagine; but generally argues, in this Diſeaſe eſpecially, a very conſiderable Advance to a putrid and very acrid State: For by mixing Spirit of Harts-horn, or Sal ammoniac with Blood from the moſt healthy, as it runs off, it always puts on ſuch a florid Appearance, and gives off little or no Serum, how

how long ſoever kept, but ſtill remains looſe, and as it were half fluid.—It is obſervable that Spirit of Harts-horn uſed frequently, and in large Quantities, diſſolves the Blood, and brings on profuſe Hæmorrhages; which, I think, is an Obſervation that ſhould be well conſidered by thoſe, who take ſo frequently and freely of that Spirit.

A ſtrong, throbbing, quick Pulſe in Peripneumonies always indicates further Bleeding, at leaſt till ſome Degree of Eaſe in breathing, or a free Expectoration of laudable Matter is obtained. — But it frequently happens that the Pulſe, even at the very Begining, ſeems obſcure and oppreſſed, irregular, ſluggiſh, and ſometimes intermitting, the Patient at the ſame Time complaining of great Weakneſs and Oppreſſion, which would ſeem to contraindicate Bleeding; and yet the Load at Breaſt, Difficulty of breathing, great Anxiety, and Heat felt about the Præcordia loudly demand it.—This often puzzles the young Practitioner. — But he ſhould conſider, that ſuch a ſudden Want of Strength, Spirits, and Pulſe, doth not ariſe from Want of Blood, as the Duration of the Diſeaſe for a few Hours, or a Day or two, cannot be ſuppoſed to have exhauſted the vital Liquid to any conſiderable Degree.— The Truth is, not the Defect, but the too great Quantity of Blood, in ſuch Caſes, is the real Cauſe of theſe Symptoms. —

For the Blood-veſſels being overloaded with Humors, and diſtended beyond the due Tone, cannot act with ſufficient Vigor.—The *Æquilibrium* between the Solids and Fluids being not duly kept up, the moving Veſſels are unable to protrude the Blood with a due Force; juſt as too great a Weight on the *Embolus of a Syringe* hinders its free Play. Hence indeed ſoon follows a Deficiency of Spirits, from Want of a due Circulation of the Blood, and proper Secretion of them; and thence a Tendency to Stagnation, Concretion, and a large Train of direful Symptoms, and even Death itſelf, unleſs timely prevented by ſufficient Bleeding; which, by diminiſhing the too great Quantity of Blood, reſtores the *Æquilibrium* between the Solids and Fluids, and a free Action to the elaſtic, muſcular Canals, which now again exert more Force on the contained Humors, and carry on the Circulation in a more regular and conſtant Manner: All which tend to attenuate the too thick and viſcid Blood, and render it more fit for the Secretion of animal Spirits, which may further invigorate the Action of the Heart and Veſſels.—So that in ſuch Caſes, *Letting of Blood* is ſo far from weakening, that it really raiſes the Powers of Nature; as is always evident on drawing Blood from plethoric Perſons, labouring under an oppreſſed Pulſe, as it is properly

properly called, which is found conſtantly to riſe on bleeding.

In ſome very violent Peripneumonies, where both the Lobes of the Lungs are greatly inflamed and obſtructed, an immediate and exceſſive Weakneſs comes on, with an inexpreſſible Anxiety, and Oppreſſion at the Breaſt, a very ſmall, weak, trembling Pulſe, Coldneſs of the Extremities, with clammy, coldiſh, partial Sweats, the Eyes ſtaring, fixed and inflamed, the Face bloated and almoſt livid; and all this ſoon followed with Stupor, *Delirium*; and I have ſeen, in ſome Caſes (tho' few indeed) with a *compleat Paraplegia*.

This is in Truth a very dreadful Caſe, but doth not ariſe from Want of Blood, but from Want of a due Circulation and Diſtribution of it: For there being ſo many and great Obſtructions in the Branches of the pulmonic Artery, the Blood is ponded up in the Lungs, and hindered from paſſing freely, as it ought, from the right Ventricle of the Heart to the left; ſo that the Aorta and its Branches do not receive Blood enough to carry on the common Offices of Life, on which ſoon follows an abſolute Stagnation and immediate Death.— Diſſections have ſhewn this to be the Caſe, the Lungs having been found quite ſtuffed up with concreted Blood, red, hard, and as it were fleſhy, or rather of the Colour and Conſiſtence of

Liver, and ſo heavy, that any Part of them, cut off, ſunk in Water *. — If any Thing can be done in this moſt deplorable Caſe, it is by early and immediate Bleeding, or it becomes in very few Hours utterly irrecoverable. — I have ſeen ſome ſurpriſingly good Effects from Bleeding in both Arms at once, when done in proper Seaſon.

And yet there are ſome Kinds of Peripneumonies, that will by no Means bear large Bleeding, as hath been noted by Phyſicians of the beſt Authority. — And I have obſerved the ſame in ſeveral epidemic Peripneumonies, particularly in the latter Part of the Year 1745, and the Begining of 1746 †; during which we had an epidemic Peripneumony, in which after a ſecond Bleeding (and even ſometimes after a ſingle Bleeding) the Pulſe and Strength of the Patients ſunk to a ſurpriſing Degree; and they ran into a Sort of nervous Fever with great Tremors, *Subſultus Tendinum*, profuſe Sweats, or an atra-bilious Diarrhœa, with a black Tongue, *Coma*, or *Delirium*; tho' at the Begining the Pulſe ſeemed to be full and throbbing, and the Pain, Cough and Oppreſſion ſo very urgent, as to indicate Bleeding pretty ſtrongly.— Now in theſe Caſes, the Blood was ſeldom found *buffy* to any conſiderable Degree, but commonly very

* *Vid. Hoffman. de Febribus pneumonicis Obſ.* i.

† *Vid. Obſ. noſtr. de Aere & Morb. epidem. Vol. II.*

florid, but of a very *loose and soft Consistence*, or *very dark-coloured, and coated with a very thin and bluish or greenish Film*, under which was a soft *greenish Jelly*, and a *dark livid Cruor* at the Bottom.— Sometimes indeed the Coat was much thicker and more *tough*, but of a *pale red Colour resembling the Cornelian Stone, or dilute Jelly of red Currans*.—This last Appearance I have frequently noted in real Pleuro-peripneumonies.— Whenever I see such a loose, dissolved Blood, I am very cautious how I advise further Bleeding, especially if I find the Pulse, or the Patient become more languid after it, however the Oppression, Load, or even Pain, may seem to require it.—It was from Observations of this Kind that *Lancisi*, and *Baglivi* from him, caution against further Bleeding, when no *sizy Coat* appears on the Blood in the second Bleeding: *In Pleuritide, Peripneumoniâ*, &c. *si in sanguine è venâ sectâ extracto non appareat in superficie crusta alba, — pessimum; — si verò in altera sanguinis missione incipiat apparere, bonum: contra si in secundâ ne quidem apparebit, abstineto statim à sanguinis missione, aliter interficies ægrotantem* *. — And I concur with *Baglivi* in the first Part of the *Prognostic* as well as the last, having always found the very florid Blood, drawn in the Begining of pulmonic Fevers of very ill *Omen*; for it shews, that either the *Crasis* of the Blood is much broken and dis-

* *Cap. de Pleuritide.*

solved,

ſolved, or that the groſs inflammatory Blood ſticks in the pulmonary Arteries, and that nothing but the very thinneſt and moſt ſerous Part can tranſude and paſs into the left Ventricle of the Heart.

I cannot but obſerve however, that ſometimes, in Peripneumonies and Pleuro-pneumonies, the firſt, and even the ſecond Blood ſhall not appear buffy, and yet the third ſhall be very ſizy, and this particularly if the Blood trickles down the Arm, and doth not come off in a full Stream; but then it is ever to be obſerved that this Blood, tho' apparently florid, when cold, is very denſe and tenacious; whereas in the Caſe I mentioned above, the Blood, tho' very florid, was of a very looſe and ſoft Contexture, and never formed into a regular firm Craſſamentum. — Such a Kind of looſe, diſſolved, florid Blood was frequently drawn from *Sea-faring Perſons* in the Begining of the Year 1746*, and was always attended with very ill Symptoms, very often fatal. —Such malignant Peripneumonies indeed very frequently happen to *Sailors* after long Voyages, and to Perſons very *ſcorbutic*. — They grow firſt of all very ſhort-breathed, liſtleſs, and faint on the leaſt Motion, and have tranſient erratic Chills, Heats, and Pains all over their Body; a

* *Vid. Obſ. noſtr. de Aere*, &c. *Vol. II. Menſ. Jan. Febr. Martio.*

Fever

Fever ſucceeds with a vaſt Load on the *Præcordia*, and a ſhort, importunate, dry Cough, a very quick, ſmall, and much ſofter Pulſe than uſual in true inflammatory Peripneumonies, clammy, unequal Sweats, and a perpetual Reſtleſſneſs and Anxiety; at laſt they begin to ſpit a *thin gleety, bloody, or very dark-coloured Matter*, frequently of a very *offenſive Smell:* Moreover theſe are not uncommonly attended with an Eruption of red, brown, livid or black *Petechiæ.* The *Urine* is commonly of a blackiſh dull Hue, or of a *firey lixivial Colour, as if a ſmall Portion of Blood was diſſolved in it:* this is rendered in ſmall Quantities, and without any Manner of Sediment; but the former hath ſometimes a large livid *Hypoſtaſis*, ſometimes nothing but a Matter like coarſe Bran irregularly ſcattered up and down in it. — As theſe Symptoms are greatly argumentative of a broken Craſis of Blood, and high Acrimony of the Humors; large Bleeding is not likely to be ſucceſsful, tho' too often imprudently uſed.

Though the Appearance of a pretty thick ſizy Coat on the Blood is in general no ill Symptom in pulmonic Fevers; yet where it is exceſſively tough, and extreamly yellow, or of a pale lead Colour, it threatens Danger, and ſhews the inflammatory Lentor is highly wrought up, and vaſtly difficult to be reſolved or attenuated,

and

and that it will ſcarce admit of any Commixture with any of the Diluents, that are taken in.—This ſeems apparent from the *odd Shape*, the *Craſſamentum* of the Blood often puts on, of a *globular*, or rather a Kind of an *oblate ſphæroidal* Figure, after large and frequent Bleeding in violent pleuritic, or peripneumonic Fevers; for then the Cake of Blood is found to ſwim in a great Quantity of very thin, and ſometimes a quite limpid, Serum; its greatly *contracted*, *concave* Surface, or Coat, being almoſt as tough as Leather, and the whole Maſs nearly as hard and firm as a Piece of Fleſh.—Now in this Caſe, as a great Deal of the globular Part of the Blood was drawn off by repeated Bleeding, the Craſſamentum is much leſſened in its Quantity; but ſtill retains its greatly morbid Viſcoſity, and its Globules, being vaſtly denſe, attract one the other exceeding ſtrongly, as appears by the Figure and Conſiſtence of the Craſſamentum: and tho' the Proportion of the Serum may have been greatly augmented, by the Uſe of plentiful Diluents; yet it appears from the Tenuity and Limpidneſs thereof, that they have not been well mixed and united with the globular, and ſulphureous or oily Part of the Blood. Nay it is often obſerved, that thin, watery Diluents are drank in large Quantities, in theſe ſevere Fevers, and rendered off by Urine al-

moſt

moſt as limpid and inſipid as Water *, or run off in vaſtly profuſe Sweats; not in the leaſt mixing, in a due Manner, with the Blood, properly ſo called, nor in the leaſt acting on the Salts and Sulphurs thereof, their exceeding firm Combination eluding the Force of the Diluters. I have repeatedly ſeen this in Pleuro-peripneumonies, where the Pain hath remained, almoſt as violent as ever, after the fourth or fifth Bleeding, and the globular Part of the Blood hath been ſo reduced, as that the Craſſamentum hath ſcarce been a ſixth Part of the Volume of the whole Blood, and yet as ſolid as a Piece of Fleſh.—Theſe Caſes are generally mortal.

If after the ſecond or third Bleeding, nay if after the firſt, your Patient begins to ſpit off freely a yellowiſh concocted Matter, lightly tinged with Blood, ſtop there, and particularly if the Breathing becomes more free, as it commonly doth; otherwiſe you will weaken your Patient to no Purpoſe, nay to a bad one, and quite ſuppreſs the Expectoration, by which Nature is now throwing off the Diſeaſe by the moſt proper *Criſis*, and ready *Outlet*; the obſtructing Matter in the Extremities of the bronchial and pulmonic Arteries being ſo far reſolved, con-

* *Hippocrates* obſerves that making Water, immediately after Drinking, is a dangerous Symptom in Pleuriſies and Peripneumonies, *Coac. Prænot. Sect. V. Ed. Lind.*

coctcd, or digeſted, as to paſs off freely into the Cavities of the *Veſiculæ*, *Bronchia*, &c. and ſo up, and out of the *Trachea*, by Cough and Expectoration: whence the extream Branches of theſe Arteries become again paſſable, and the Circulation thro' the Lungs at laſt duly reſtored.

That there is a Paſſage from the bronchial Arteries, into the Cavities of the Trachea and its Ramifications, is evident; for the *oily Mucus*, which in a natural State lines and lubricates the internal Membrane of the *Aſpera Arteria* and its Branches, is ſeparated from the bronchial Arteries.— And it is alſo certain that Water, Serum, *&c.* paſs freely from the pulmonary Arteries into the bronchial, veſicular Cavities; as appears from the Experiments of *Ruyſch*, and the accurate Doctor *Hales*.—Indeed as the bronchial and pulmonic Arteries, in their different Ramifications, join by innumerable *Anaſtomoſes*; even by this Way the pulmonic Arteries may have a Communication with the *Bronchia*.—Now when the obſtructing Matter is ſo duly attenuated and concocted, and the Veſſels ſo far dilated as to give a free Paſſage; it is thrown into the Cavities of the Bronchia, and ſo out of the Lungs by Expectoration.— It ſeems evident that the lateral, or ſerous Branches of thoſe Arteries, at their Extremities, are ſo far dilatable as in ſome Caſes to paſs red Globules, and that too freely, into the Cavities of the Bronchia; as is

particularly

particularly ſeen in thoſe Spittings of Blood, which are made *per Diapedeſin*, as *Galen* and the Ancients called it: For I think it is pretty certain, that ſome *Hæmoptoë*'s do not ariſe from a Rupture of the Veſſels, as no Manner of Pain, Purulence, or the like, precede, ſucceed or accompany them.

But where theſe ſmall Veſſels of the Lungs are by Nature or Art made eaſily dilatable, they ſuffer leſs from inflammatory Lentor, than where they are very rigid and elaſtic; as commonly happens in the Robuſt and Laborious, who according to the Obſervation of *Hippocrates* are moſt ſubject to, and ſuffer moſt from Inflammations of the Breaſt and Lungs *.— And this indeed is confirmed by every Day's Experience; and ſo is likewiſe the following Remark of the ſame great Father of Phyſic, relating to the laudable Expectoration I mentioned above, "Αἵματι δὲ ξυμμεμιγμένον μὴ πολλῷ πτύελον ξανθὸν, "ἐν τοῖσι περιπλευμονικοῖσιν, ἐν ἀρχῇ μὲν τῆς νόσου, "πλυόμενον περιες ηκὸν † ἢ χάρτα ὠφελέει": *Hippocr. Prognoſt.* And indeed it hath been the Obſervation of the very *Nurſes* in ſome epidemic *Pleuropneumonies* and *Peripneumonies*, that all

* *Coac: Prænot.* 29. *Lib.* II. *Cap.* xvi. *De Pleuritide, Edit. Pureti.*

† So I chuſe to read with *Foëſius* rather than περιεχλιηκὸν, as more agreeable to the Senſe and the *Hippocratic* Diction.

thoſe

thoſe who ſpit Blood do well.—However this is very far from being always true, unleſs the Matter is conditioned as above: for whenever either very frothy, or ſincere florid Blood is ſpit up, or black and partly coagulated, ſpongy, liver-coloured Blood, it is quite otherwiſe; as it ſhews that there is nothing like Reſolution, or Digeſtion of the obſtructing Matter performed; but that, the Obſtruction being deeply radicated, and the impelling Force of the Heart vehement, ſome Veſſels are burſt open, and an Extravaſation of Blood made into the Cavities of the Lungs, and ſo ſpit up.—For when great Obſtructions are formed in ſome Parts of the Lungs, the Blood muſt be forced in greater Quantities, and with greater Rapidity, thro' the Veſſels that are pervious; which hence, being overdiſtended, frequently break, and the Blood guſhes into the Cavities of the Bronchia, and many Times into the inmoſt Receſſes of the veſicular Cells.— What of this Blood is ſpit off immediately appears florid and frothy, and does no further Damage; but the chief Misfortune is, that a great Part of it remains commonly in the Lungs, and ſtuffs up the Air-Bladders, and compreſſes and obſtructs their Blood-veſſels; which very much encreaſes the Difficulty of breathing, and greatly hinders the Circulation of the Blood thro' the Lungs. — Beſides as it is exceeding difficult to be pumped up from

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theſe minute veſicular Cells, by continuing there it grows more and more putrid, till at length it becomes a corroſive Sanies, that deſtroys the very Subſtance of the Lungs: But of this more hereafter.

As all Inflammations of the Lungs will either quickly choak the Patients by hindering the Paſſage of the Blood thro' them, or terminate in Suppuration, Gangrene, or Scirrhoſity, if the obſtructing Matter is not ſoon kindly reſolved, or digeſted; we ſhould be as early as poſſible in our Endeavours to abate, and take off, the Inflammation by Bleeding in due Quantities: for when once an Abſceſs is actually forming, Bleeding can be of no further Service.—Nay when once the *Phlegmon* is too far advanced to be reſolved, Bleeding is really diſadvantageous, as retarding the next Operation of Nature to free herſelf from the offending obſtructing Matter by a kindly Suppuration: For by this Means the Matter is made to ſtagnate longer, and ſo grows more and more acrimonious; which at length, by affecting the adjacent Parts, forms a much larger Impoſtume than would have happened at firſt, if Nature had been left to her own regular Proceedings; nay many Times it ends in a downright Gangrene, and ſometimes in an obſtinate Scirrhoſity, making the ſhort Remains of Life extreamly miſerable.

Phyſicians note in general, that, after the fourth or fifth Day of a true Peripneumony, Bleeding is of little Avail to prevent the Suppuration; for moſt *Phlegmons* begin to ſuppurate in that Time, if not reſolved before: This will more eſpecially and ſooner happen in ſuch a Part as the Lungs, ſurrounded on all Sides by Warmth and Moiſture, and ſo near the Heart acting on the inflammatory Obſtruction with conſtant and great Force.—So that where the peripneumonic Symptoms continue with great Violence for four or five Days or more ſucceſſively, an Abſceſs, or Mortification, is juſtly to be feared, and little Advantage is to be expected from further Bleeding.

But yet, if either the Pain returns with Violence after having ceaſed a conſiderable Time, or ſeizes another Part of the Breaſt; it is an Argument that a new Inflammation is forming, which indicates Bleeding as much as the primary, tho' not to the ſame Degree: for this acceſſary Seizure being altogether of the ſame Nature, and on the ſame *Organ* as the former, requires the ſame Method to prevent its Advance and further ill Conſequences. The Strength of the Patient and Pulſe, the Violence of the Pain, and Difficulty of Reſpiration, are in a great Meaſure to determine the Quantity: And ſome Regard muſt be had alſo to the Colour and Conſiſtence of the Blood, and the Quantity and Quality of the Serum. I have ſometimes ordered Bleeding the ninth or

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tenth Day from the firſt Attack, and found the Blood almoſt as ſizy as what was drawn the ſecond or third, and that too where the Lancet had not been timorouſly uſed; but the Craſſamentum, tho' exceeding tough, was greatly reduced in the Proportion it bore to the Serum.

It is commonly obſerved, that as ſoon as this ſecondary Attack and Pain come on, with any Degree of Violence, the Expectoration, tho' before free and copious, ceaſes altogether, or is performed with very great Difficulty; the Violence of the Pain not ſuffering the *Thorax* to be duly expanded, and the Muſcles of the Lungs, Breaſt and Abdomen to act with ſufficient Force to eject the Matter: Not to mention that the Inflammation hinders a due Secretion of the lubricating *Mucus*, which ſhould naturally be ſeparated to ſmooth over the internal Membrane of the *Trachea* and *Bronchia*, and expedite the Diſcharge of any Matter contained in them.—And we eventually find that, after the Inflammation is abated by Bleeding, the Expectoration returns with Eaſe and Freedom.

So that tho' in Peripneumonies and Pleuro-peripneumonies you are chiefly to make your Evacuations by Bleeding before the fifth Day; yet on freſh Attacks of violent Pain, difficult Reſpiration and ſuppreſſed Expectoration, you are to begin again, as it were, anew*, but with

* *Hippocrates* bled *Anaxion* the eighth Day, becauſe the Pains continued, and he did not expectorate. *Lib. III. Epid.*

great Caution and Moderation: as all Relapſes, in theſe Caſes eſpecially, are dangerous, the Sick growing daily weaker and leſs capable of bearing any conſiderable Loſs of Blood. And therefore it will be very imprudent, upon every little Pain, to have Recourſe to Bleeding; for more or leſs Pain continues, particularly after Pleuro-peripneumonies very often, a long Time after the Fever is quite gone off: *Debet prius ceſſare febris, & poſtea dolor affecti lateris*, ſays *Baglivi* *. —But Bleeding is, in a peculiar Manner, leſs proper where a copious Expectoration of laudable Matter goes on pretty eaſily, tho' it ſhould ſtill continue tinged with Blood, for the Reaſon I hinted above; *viz.* that it indicates the Reſolution and Concoction of the Matter of the new Inflammation. Nay it is for that very Reaſon to be avoided, tho' too often imprudently ordered, and Aſtringents ſtupidly adminiſtered, to reſtrain this ſlight *Tinge* of Blood: But it is by Perſons, who have very little attended to Nature's Operations, and leſs to *Hippocrates*, her great Interpreter.—It is without all Doubt vaſtly more proper to alleviate the Pain and Importunity of the Cough by gentle Opiates, cooling, ſoft, Demulcents, and eaſy Expectorants.

I have only two Things more to add on the Article of Bleeding in pulmonic Diſorders.—

* *Prax. medic. Cap. de Pleuritide.*

The firſt is, that Bleeding in the *Saphæna*, or Foot, is much leſs practiſed in ſuch Caſes than might be expected from the Reaſon of Things, and the certain Experience of its great Efficacy in ſpitting Blood from the Lungs; I mean after ſome proper Quantity of Blood may have been drawn from the Arm: *Alexander* the *Trallian* †, many Centuries ſince, adviſed it as very uſeful in that Caſe.—The ſecond is, that where the Pulſe and Strength of the Patient ſeem not to favour further Blood-letting from a large Vein, and yet the oppreſſive, laborious, painful Cough and Suffocation remain very urgent; Drawing off Blood by Cupping on the Shoulders, *&c.* may be done with Safety, and frequently gives exceeding great Relief in Diſorders of the Breaſt, as well as of the Head, tho' the Reaſons may not be ſo very obvious and aſſignable. However it muſt be conſidered, that the greater Part of the Blood, drawn this Way, is arterial Blood;—and that the Uſe of Bliſters, Iſſues, Setons, and even of Cupping on thoſe Parts is very notorious in aſthmatic Coughs, Defluxions on the Lungs, *&c*; and ſeems to ſhew that Revulſions and Evacuations, made this Way, may be very ſerviceable in Inflammations of the Lungs, and in Event they are ſo.

† *Cap.* vii. *p.* 94. *Ex Edit. Rob. Stephan. Lutetiæ*, 1548, Fol.

Although Bleeding in all Inflammations of the Lungs is indiſpenſably neceſſary in ſome Degree, and ſome Times, when well timed and executed, quite curative; yet in general there are ſeveral other Indications to be anſwered: For both the Fever, and the particular Inflammation, require a cool diluting Regimen, and nitrous and relaxing Medicines, together with a moderately cool free Air, and as much Quiet as poſſible both of Body and Mind. It avails little to draw off ſome of the ſizy, obſtructing, inflammatory Blood, if the Remainder is not cooled, diluted, and thinned, and a further Generation of the inflammatory Lentor prevented by nitrous Attenuants, cool ſaponaceous Medicines, diluting, relaxing, emollient Drinks, Emulſions, &c. which a hot Regimen, hot Medicines, hot Air, much Motion of Body and Agitation of Mind tend greatly to encreaſe. Perſons in aſthmatic Paroxyſms are under a Neceſſity of keeping a quiet Poſture, and of breathing cool Air, or they are in immediate Danger of Suffocation; how much more ſo then are theſe neceſſary, where there it not only a great Obſtruction in the Veſſels of the Lungs, but alſo an Inflammation in their very Subſtance?—A cloſe, narrow, ſtifling Room is exceedingly incommodious to any Perſon ſick of a Fever, but much more ſo to thoſe ill of a Peripneumony, as I

have many Times obſerved, eſpecially among the lower Part of Tradeſmen, when two or three Families perhaps live in a Houſe together.—*Celſus*'s Advice is never more proper, nay neceſſary, in any Kind of Fever than in a peripneumonic, *in amplo conclavi tenendus æger* *. — If ſuch cloſe Rooms cannot be avoided, they certainly ſhould be frequently, but prudently aired.

Few or no Peripneumonies, or Pleuro-peripneumonies, end well without a free and copious Expectoration; for this is the natural *Criſis* of theſe Diſorders, as hath been noted by *Hippocrates* and all judicious Phyſicians, and the Want of ſpitting off the morbid obſtructing Matter in a due Manner reckoned extreamly dangerous, Αἱ ξηραὶ τῶν Πλευριτίδων ἄπλυτοι χαλεπώταται †. — And again in the *Prognoſtic* ‖ he ſays, it is a very bad Symptom when μηδὲν ἀναχαθαίρηται, — ἀλλὰ πλήρης ἐὼν ζέῃ ἐν τῷ φάρυγγι. — The more eaſy, early and large the concocted Expectoration is, ſo much the better. Indeed generally at the Begining it is crude and thin, but ſoon becomes of a whitiſh yellow Colour and greater Conſiſtence, when Matters proceed rightly; and about the third Day it is commonly ſtreaked with Blood, or

* *Lib. III. Cap.* vii. † *Coac. Prænot.* 3. *Cap.* xvi, *Edit. Dureti.* ‖ *Sect.* xiii. *Edit. Linden.*

the Blood is ſo incorporated with it as to give it a bloody *Tinge*, *flavo-rubeſcens* as *Baglivi* * calls it, or in the *Hippocratic Phraſe*, Πτύελον ὔφαιμον.—This Kind of Matter, when freely ſpit off, gives great Relief to the Reſpiration, Pain and Oppreſſion at the Breaſt, and generally terminates the Diſeaſe in ſeven Days.

But nothing more effectually promotes Expectoration (by attenuating and reſolving the impacted Matter) than drinking freely and frequently of cooling, relaxing and gently ſaponaceous Diluents; ſuch as thin Whey, the *Barley Ptiſan* with Liquorice, Figs, *&c.* the Decoction, or rather Infuſion of the *pectoral Herbs*, as Ground-ivy, Maiden-hair, Colts-foot, Hyſſop, *&c.*—Theſe ſhould be gently acidulated with Juice of Lemon, or Sevil-orange;—if any Thing more detergent is wanting to the abave Drinks, *Honey* may be added: An admirable, natural, cordial *Sapo*, thrown almoſt out of the modern *Materia Medica* I know not why, nor how; for where it gripes or purges one, it agrees with a thouſand, and even its griping and purging Quality may be eaſily corrected by boiling.—*Hippocrates* uſed *Oxymel* and *Mulſum* in ſuch Caſes, and adviſes againſt drinking mere Water in pulmonic Fevers, as neither good for the Cough, nor to promote Expec-

* *Cap. de Pleuritide.*

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toration *: — Any or all of these Things, by Turns, drank warm answer the above Intention exceedingly well, if taken in frequent but small Draughts, sipping them as it were perpetually; for by this Means much of the relaxing, resolving Vapor is also drawn into the Lungs, and much probably absorbed by their imbibing Vessels; so that relaxing and diluting is thus carried on in a double Manner, and of Course very effectually. Very large Draughts should not be taken at once; for they overcharge the Stomach, produce Indigestion and Flatulence, and force up the Midriff too much, which greatly embarrasses the Respiration: — Therefore *Hippocrates* advises to drink in those Diseases out of a Cup with a narrow Mouth †, probably both that the Liquor and Vapor might be preserved warm longer, and that less might be drank at a Time, and also that the Steam might be more copiously carried into the Mouth and Nose. — However still he advises to drink freely to promote the Expectoration, without which the Patient dies ‖: — And

* *De Vict. in Morb. acut. Sect.* xxx. *Edit. Linden.*

† Μὴ ψυχρὸν, ὀλίγον δὲ ἐκ βομβυλίου ἐκ εὐρυστόμου; *for so it should be read, or simply* βομβυλίου, *as all the Commentators agree, Lib. III. de Morbis, Sect.* xxiv. *Edit. Linden. See* Galen, Erotian, *and* Foësius, *on the Word* βομβύλιος.

‖ *Lib. I. de Morbis, Sect.* xxvi. — *De Locis in Homine, Sect.* xxx, xxxvii. *Edit. Lindeni, and in many other Places.*

many

many Kinds of Drinks he advises for this Purpose, but particularly recommends Barley-water, Honey and Water, Oxymel, and Vinegar and Water.

These relaxing emollient Drinks and Vapors are in a more especial Manner necessary, when the Expectoration is very difficult and tough, and for those of a *strigose* Habit of Body and very rigid Fibres; such as hard labouring People, and those of a hot and dry Constitution, generally are. For as a very dry Air, whether cold or hot, is found to hinder a free and copious Expectoration; a moist and warm * one cannot but promote it, by relaxing the Vessels, and attenuating also in some Degree the over viscid Humors.—*Baglivi* † greatly recommends the *fervida potio* for resolving pulmonic Obstructions, but I think a moderate Degree of Warmth is more proper both for resolving and relaxing.—Fomentations applied too hot on the external Parts are found to incrassate the Humors, and corrugate the Skin, and are vastly improper upon inflamed Parts.—The Vapors may be made more or less stimulating, or relaxing, as the Case requires.—I have known the Fumes of Vinegar itself of no small Service in malignant Peripneumonies: Several

* Aretæus *says, neither cold Drink nor cold Air are good in Pleurisies.*

† *De Pleuritide.*

Kinds

Kinds of Medicines may undoubtedly be administered with great Advantage by Way of Vapor: The Steam of *camphorated Vinegar* is no contemptible Thing in many Cases.

Hippocrates and the Ancients were so sensible of the Necessity of Expectoration in pulmonic Disorders, that they not only endeavoured to promote it, by the Means I have mentioned; but also in difficult Cases used much more powerful Expectorants *: The Cream of Barley with Honey or Oil, Oxymel, Hyssop, Rue, Galbanum, Mustard, Pepper, *Silphium* † were some of the milder: in desperate Cases white Hellebore, ‖ Elaterium, "Ανθος χαλκῦ were advised: and desperate indeed they must be to be justified now-a-days; but as they had then no other, desperate Remedies were to be tried in desperate Diseases.—We have a much more ample *Materia medica*, and can avail ourselves of Things of a much gentler Nature. — But I have several Times given an Emetic in Peripneumonies with great Advantage, when the Expectoration hath been suddenly suppressed, and the Difficulty of Breathing greatly aug-

* Ἰσχυρότατα ἱπαναχρεμπτήρια Φάρμακα; *De Locis in Homine, Sect.* xxx. *Edit. Linden.*

† *Lib. III. de Morbis, Sect.* xviii. xxv. *Edit. Linden, & alibi passim; and* Aretæus *advises much the same Things in Pleurisies and Peripneumonies.*

‖ *Lib. III. de Morbis, Sect.* xvii. *Ed. Linden.*

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mented; but it was when a proper Quantity of Blood had been drawn antecedently, and the Violence of the Fever abated: but in ſuch Caſes very little ſhould be drank after it to promote the Vomiting. *Oxymel ſcilliticum* frequently doth great Service this Way, and its Virtues in relieving aſthmatic Diſorders are notorious: It not only, in a proper Doſe, pukes gently, but is alſo an excellent cooling Attenuant, an uſeful *Eccoprotic*, and a very good Diuretic: It is undoubtedly greatly ſuperior to ſimple Oxymel, and may be ſo blended with oleaginous emollient Medicines as to be highly ſerviceable, as an eaſy Expectorant.—Where very ſoft, demulcent lubricating Medicines are indicated, our common *Linctus* of *Sperma ceti*, *Ol. amygdal. dulc.* or cold drawn *Linſeed-oil* with *Syrup. althææ*, *Papav. errat. diacodium*, or the like, anſwer the Intention.—But where Oils diſagree, a Mucilage of Quince-ſeeds, or Linſeed with *Rob* of Elder-berries, or black Currans, or their Syrup, or that of Poppies, is very uſeful and grateful.—*Nitre*, that very neceſſary cooling Attenuant, is very agreeably adminiſtered in either of theſe Compoſitions; and perhaps *Camphire*, given this Way, is the leaſt nauſeous.—The utmoſt Care ſhould be taken never to give ſtrong Expectorants in the Beginning of Peripneumonies, till proper Bleeding, *&c.* may have allayed the Impetuoſity of the Blood and Fever; otherwiſe they will encreaſe

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the Inflammation and Danger of Suffocation, and eventually intercept what they were designed to pump up: The Matter ſhould be firſt concocted, and then expectorated. — Another Thing is alſo neceſſary to be obſerved in the Uſe of ſuch Expectorants as *Oxymel ſcillitícum*, oily Medicines, gummoſe Mixtures, and pectoral Decoctions; and that is, that we do not bring on any conſiderable Purging, which will certainly ſuppreſs the Expectoration, and endanger the Life of the Patient.

Though a free Expectoration of concocted Matter is of the higheſt Service in the Cure of Peripneumonies and Pleuro-peripneumonies, and ſhould be always encouraged; yet there are ſome Kinds of Expectoration of very *ill Omen*.—It is particularly a very ill Sign, when much ſincere florid, or frothy Blood is ſpit up, and thus it is pronounced by *Hippocrates* and *Aretæus*; though they both ſpeak ſo favourably of the concocted Matter that is expectorated with a bloody *Tinge*: The former condemns the Πτύελον λίην αἱματῶδες *, the latter the Δίαιμον ἀνθηρὸν σφόδρα; nay *Aretæus* ſays, Ἐς-ί τὸ Δίαιμον τῶν ἄλλων κάκιον †, and I think ſo too for the Reaſon above-mentioned; for this freſh frothy Blood proceeds from a Rupture of Arteries in the Lungs, and not from a Reſolu-

* *Coac. Prænot.* 17. *Lib. II. Cap.* xvi. *de Pleuritid. &c. ex Edit. Dureti.* † *Cap. de Pulmonaria.*

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tion of the inflammatory Obſtruction. Now, if Arteries are burſt in the Lungs, the Blood guſhes into the Cavities of the Bronchia, ſometimes in ſuch Quantities as to cauſe a ſudden Suffocation, if not immediately brought up: but more commonly it leaks into the pulmonary Veſiculæ, and many Times Veſſels are broke in the inmoſt Receſſes of the Lungs, Part of which may indeed be ſoon ſpit up freſh and florid, but much is very apt to remain in the ultimate Ramifications, and cellular Interſtices of the Bronchia; which ſtuffs up the Lungs, compreſſes the ſurrounding Blood-Veſſels, and at length putrefies and corrodes all around it: Hence a ſpeedy Suffocation, a dangerous *Vomica*, or a direct Gangrene frequently enſues.—This extravaſated Matter alſo may indeed be partly ſpit off in the Form of a bloody *Sanies*, or of livid and black Concretions; but it is commonly with ſuch Difficulty, and ſo violent a Cough, as even to encreaſe the Extravaſation: But it is generally ſo imperfectly, that much remains in the Lungs, and produces moſt fatal Conſequences. *Hippocrates* * therefore declares ſuch a Kind of Expectoration exceeding dangerous; and truly it is moſt commonly a Sign of an impending Mortification, or one actually formed.—I re-

* *Progvoſtic.*— *Coac. Prænot.* 45. *Cap. de Pleuritid. ex Edit. Duret.*

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member many Years ſince to have obſerved a Matter ſpit up at the Cloſe of a Peripneumony, by one Mr. *Clark*, a Maſter of a Merchantſhip of this Town, which exactly reſembled Pieces of boiled Spleen, or rather more ſpongy, ſome of which were very fœtid: He died the 19th Day of the Diſeaſe. This correſponds with a Prognoſtic of *Baglivi* * from *Dodonæus*: *Qui ſpuunt ſanguinem nigrum poroſum* †, *ad inſtar ſpongiæ, iis pars aliqua ſphacelo correpta eſt in pulmone, & omnes pereunt.*

As ſoon therefore as this Expectoration of florid Blood appears, I immediately direct Bleeding in ſuch Quantities, as are adapted to the Strength of the Patient; in order to abate the too rapid Motion of the Blood, leſſen the Inflammation, and prevent as much as poſſible the further Effuſion of Blood amongſt the pulmonic Veſiculæ and Cellules, where it would do infinite Miſchief. — If the *Hæmoptoë* continues, Bleeding in the *Saphæna* will be found of the utmoſt Service. — Beſides this, cooling Emulſions, nitrous, demulcent, mucilaginous Medicines, vegetable Acids, and even mineral, if the *Hæmoptoë* be very conſiderable, are required: A Decoction of red Poppies, Coltsfoot and Figs, acidulated with Elixir of Vitriol,

* *Vid. Baglivi Opera, Lugduni* 1704. 4*to. p.* 87.

† Αἷμα ἰὸς θρόμβους μέλανας. *Hippocr. Lib. III. de Morbis, Sect. xix. Edit. Linden.*

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makes an admirable Drink in ſuch Caſes :—— And we muſt endeavour to moderate the Violence of the Cough by *Diacodium*, a ſoft Linctus, or the like.—But I utterly diſapprove of ſtrong Aſtringents, and large Doſes of Opiates, as I have often known the imprudent Uſe of them, in ſuch Circumſtances, bring on a vaſt *Orthopnœa*, and moſt terrible Symptoms : For the extravaſated Blood muſt be ultimately ſpit off, or the Patient never recovers ; but this is impoſſible without more or leſs of a Cough to pump it up. — I have ſeveral Times known very large Impoſtumations happen after ſuch Kind of Peripneumonies, where the Patient had ſurvived the Fever for ſeveral Days, nay for ſome Weeks.

Though a morbid *Viſcoſity* commonly prevails in pulmonic Fevers, yet there are not a few, in which an acrid *Tenuity* is predominant. —And as we obſerve in *Ophthalmies*, the *Defluxion* ſometimes as thick as *Glew*, ſometimes as thin as *Water*, and ſharp as *Brine*, fretting the very Skin of the Cheeks as it trickles down ; ſo the Matter expectorated in ſome Peripneumonies is extreamly thin and crude, and the Defluxion ſo very acrid as to excoriate the Wind-pipe, *&c.* and cauſe an inceſſant and very violent Cough.

The ſharp thin Humors, in catarrhal Fevers, very often bring on peripneumonic Symptoms,

toms, by cauſing a conſtant Irritation and Agitation of the Lungs; and no ſmall Miſchief likewiſe ariſes from the violent Concuſſions, that are occaſioned by the frequent *Sneezing*, which commonly attend ſuch acrid *Catarrhs*, which are ſometimes ſo *virulent* as to inflame the Noſtrils, and bliſter the very Lips. — The great Father of Phyſic, in his *moſt admirable Prognoſtic*, hath pronounced it very dangerous, when *Catarrhs* and *Sneezing* precede, or ſupervene peripneumonic Diſeaſes.—— I once knew very ſevere pleuropneumonic Pains immediately brought on by a Fit of Sneezing, after they had quite ceaſed for a very conſiderable Time.

In this *catarrhal Peripneumony*, if I may ſo term it, no great Loſs of Blood is neceſſary; ſome however ſhould be drawn, in the Beginning, to abate the preſent inflammatory Diſpoſition, and prevent future ill Accidents. Bliſters alſo ſhould be applied early, to avert and draw off the acrid Defluxion: And here even gentle Purgatives are proper to carry off the ſerous *Colluvies*. The Author of the ſecond Book *de Morbis*, amongſt the *Hippocratic* Writings *, adviſes to purge in an *Eryſipelas* of the Lungs, where the Expectoration is large and thin: And I have frequently experienced the good Effect of Purgatives in theſe catarrhal

* *Sect.* liii. *Edit. Linden.*

Peripneumonies, though they are utterly improper in thoſe that are attended with a laudable concocted Expectoration. Much leſs Drink is neceſſary in this Peripneumony than in the dry Kind; ſome *demulcent pectoral Ptiſan* however is proper to temperate the Acrimony of the Humors, and ſhould be taken warm with ſome mild Diaphoretics, to promote eaſy breathing Sweats: *Coffee* in this Caſe is both a pleaſant and a profitable Drink. Some gentle Opiates likewiſe are required to moderate the Cough, ſuch as Diacodium, or *Elixir aſthmaticum*, not in large Doſes, but frequently repeated; with which may be joined Sperma ceti, Myrrh, Olibanum and Camphire, as they will alſo tend to incraſſate the thin catarrhal Humor, and abate its Irritation; which, as *Hippocrates* ſays, brings on Peripneumonies, *&c.* which ceaſe as ſoon as the Defluxion becomes more thick and concocted *.

But of much worſe Omen, than this thin crude Expectoration, is the *livid*, *gleety*, and *ſanious*, frequently reſembling the *Leys of red Wine*, ſometimes more *black*, and ſometimes very *fætid*; for this either proceeds from a gangrenous State of the Lungs, or from a Deſtruction of the Craſis of the Blood by very great Acrimony, which is often the Caſe in the highly

* *De veteri Medicina*, *Sect.* xxxiii. *Edit. Linden.*

ſcorbutic:

ſcorbutic: A vaſt many Inſtances of which we have lately had amongſt the *Sailors*, after long Cruiſes and *Weſt-India Expeditions*.—The Blood drawn from ſuch Peripneumonics appeared in a diſſolving putreſcent State; the *Craſſamentum* looſe and tender, the *Serum* turbid and reddiſh: The black Tongue, and Teeth furred with a dark thick *Sordes*, the offenſive Breath, and high-coloured, or blackiſh rank Urine, which were generally obſerved, denoted a great Corruption of the Humors; and the black Spots, or bloody Dyſentery, which frequently appeared the fifth, ſixth, or ſeventh Day, more ſtrongly evinced it.—It was ſurpriſing how much the Pulſe and Strength of the Patient ſunk after Bleeding in ſuch Caſes: With no ſmall Concern and Aſtoniſhment I ſeveral Times obſerved a vaſt Anxiety, Fainting, cold Sweat, and a thready intermitting Pulſe, very ſoon ſucceed it; though at the very Begining of the Fever, and when the Pulſe ſeemed ſtrong and throbbing before. — I have ſeen this even in Pleuro-peripneumonies, where the Pain of the Side was violent, the Load at Breaſt great, and the Cough conſiderable; otherwiſe the peripneumonic Appearance might have been imagined to be a mere Symptom of a malignant Fever.—I am very ſure this putrid Peripneumony never bore a ſecond Bleeding with Advantage, ſeldom indeed the firſt, unleſs

leſs there was ſome conſiderable Degree of *Firmneſs* and *Tenſion* in the Pulſe*. — When I was diffident as to Bleeding, I ordered Scarification and Cupping ſometimes with Succeſs; though in one or two Caſes, the Effuſion from the Scarification was vaſtly profuſe, and could not be totally reſtrained, till the Patient expired.

Here then ſome *anti putreſcent* pectoral Medicines are neceſſary; a Decoction of Figs, Colts-foot and red Poppies, well acidulated with Juice of Sevil-orange, or Lemon firſt, and then with *Gas Sulphuris*, or *Elixir Vitrioli*, is very proper. —— Nitre, *Olibanum*, Myrrh, Flowers of Sulphur and Bole may be adminiſtered with *Conſerv. Lujulæ*, *Rob* of Elder or Currans, Mucilage of Quince-ſeeds, and *Syrup. de Rubo Idæo*: *Camphorated Vinegar* with Syrup of Elder and Raſberries is an excellent Medicine; a Spoonful or two of theſe latter ſhould be given ever and anon. Sound *Cyder*, and Wine and Water with Sevil-orange or Lemon Juice, drank warm, promote Expectoration when deficient, and correct the *alcaleſcent Acrimony*.—Tincture of Roſes with red Poppy Flowers moderated an inordinate Defluxion of the thin bloody *Ichor*; frequently however *Oxymel ſcillit. & Aq. Cinnamom. fort.*

* *Vid. Obſ. noſtr. de Aere, &c. Vol. II. Jan. Febr.* 1746.

were

were neceſſary to pump up the Matter, when a great Rattling in the Wind-pipe, and Difficulty of Breathing, indicated a vaſt Quantity of it in the Lungs: And yet very often the Importunity and Violence of the Cough was to be appeaſed by *Elixir Aſthmaticum*, *Diacodium*, *&c.*—— Sago, Panado, Jelly of Hartshorn, roaſted Apple, Cream of Barley, or thick Gruel with a little Wine and Juice of Lemon, given little at a Time, but often, were neceſſary to ſupport the Patient; even Strawberries, Rasberries, Currans, Cherries, were ſometimes indulged with Advantage. Nor is this a new Practice; for *Aretæus** adviſes the Fruits of the Seaſon, ſuch as Figs, *&c.* in the Cure of Pleuriſies; and the ſame Author very juſtly ſays, that Food may be ſo adapted, as to be made Phyſic†. — I have been more large in the dietetic Part; for in a Word a proper Support of the Patients, and gaining Time till the Acrimony of the Humors was corrected, and the Lungs diſburthened from the putrid Colluvies, ſeemed to be the great Affair: at the Cloſe, at leaſt, the whole depended on a well-regulated Diet, in which Toaſt with diluted red Port-wine, mulled up with Sevil-orange Rind, Mace, or Cinnamon, and well acidula-

* *De curatione Pleuritidis.*

† Ἐν Τροφῇ γὰρ κεῖσται τὰ Φάρμακα, ἀτὰρ καὶ τὰ Φάρμακα ἐν Τροφῇ. *Ibid.*

ted, were remarkably uſeful.— I ſeldom found Bliſters of any Service in this Caſe, often indeed miſchievous, fretting much, and venting a vaſt deal of thin bloody Matter, and ſometimes attended with Mortifications.

A very thin yellow Spitting, as if tinged with Saffron, is another ill Symptom in pneumonic Fevers; as either denoting that the inflammatory Lentor ſticks faſt in the Arteries of the Lungs, and that nothing, but the ſerous and thinneſt Part of the Blood, is ſtrained through them; or elſe it ſhews that the whole Maſs of Blood begins to diſſolve, and its bilious Principles to be highly exalted, and that all tends to a general Putrefaction. — In very putrid Fevers even the Milk, Sweat, &c. turn yellow, and ſtagnant Blood putrefying and diſſolving always puts on that Appearance.—*Hippocrates* indeed commends that Expectoration, in which the *yellow* is ſtrongly mixed with the *Spittle* * (or an intimate Mixture of yellow with white); but then he declares the *ſincere yellow Spit* (ξανθὸν ἄκρητον †) dangerous; and it is conſtantly found ſo, and is commonly attended with a violent Cough, and brought up with exceeding great Difficulty: Beſides, it is many Times ſucceeded by a *Hæmoptoë* from a

* Τὸ ξανθὸν ξυμμεμιγμένον ἰσχυρῶς τῷ πτυέλῳ. *Prognoſtic. Sect.* xiii. *Edit. Linden.*

† *Ibid.*

Rupture

Rupture of the Veſſels; and this particularly when the Tongue appears very red, dry, ſmooth and ſhining, with a Kind of *livid Bladders* * *at the Top*; which, by the Way, is a bad Symptom in all Kinds of Fevers.—— It is carefully to be diſtinguiſhed in Practice, from which of the above Cauſes this thin bilious Expectoration proceeds; in order to which we ſhould diligently conſider the Pulſe, State of the Blood, and Temper of the Body: for very different Indications will ariſe from the different Cauſes.

I ſhall conclude theſe Remarks, on the Expectoration in pulmonic Fevers, with the following Obſervations of the great *Hippocrates*.

—" Matter ſhould be ſpit off eaſily and early
" in Peripneumonies and Pleuriſies; the Co-
" lour of it ſhould be a yellow well mixed
" with the Spittle, or a concocted yellow Mat-
" ter that is tinged with ſome, but not too
" much, Blood:— If this happens in the Begin-
" ing of the Diſeaſe, it is very advantageous; but
" is not ſo much to be depended upon after
" the ſeventh Day.—It is exceeding bad when
" there ſeems a great Quantity, and Rattling,
" of Matter in the Throat, and yet nothing is
" ſpit off. It is indeed, in all Caſes, dange-

* Πομφόλυξ ὑποπέλιος *on the Tongue* Hippocrates *pronounces dangerous, and that it precedes Spitting of Blood.* Coac. Prænot. 6. Cap. de Pleuritide.

" rous when nothing is expectorated; but that
" which is very viſcid, ſmall, and globular, or
" frothy, is unprofitable. The ſincere yellow
" unmixed Spitting is bad; when very bloody,
" or livid, it is dangerous; eſpecially when
" this Appearance is very early; but that which
" is quite black is worſt of all: It is an ill
" Sign alſo when it is very green (ἰώδες).
" Whatever is ſpit up with great Difficulty,
" violent Cough, and no Relief to the Pain
" and Oppreſſion, ſhews the Caſe to be bad."
See *Coac. Prænotion.* 13, 14, 15, 16, 17, 18. *Edit. Dureti, Cap. de Pleuritide*, compared with the *Prognoſtic of Hippocrates*; who ſays, a concocted Expectoration is like good *Pus* *, not thin and gleety, nor very yellow, very bloody, green, or livid: Indeed in any Abſceſs, or Ulcer, ſuch Colours are of very ill Omen, as denoting a high Degree of Acrimony.

But when a Reſolution, or Concoction, of the inflammatory Obſtructions of the Lungs happens, not only Part is thrown into the Cavities of the *Bronchia*, and ſo ſpit off; but alſo Part of it paſſes on into the correſponding Veins, and thence moves on with the reſt of the Blood, in the common Road of Circula-

* Πέπανσις δὲ ἐστὶ τὰ μὲν Πτύελα, ὁκόταν γένηται ὅμοια τῷ Πύῳ. *De Vict. acut. Sect.* liii. *Edit. Lindeni.*

tion;

tion; till at length it is partly carried off by thick turbid Urine, in large Quantities, depositing much reddish, yellow-coloured Sediment, which in peripneumonic Disorders always betokens Good, and partly also sometimes by bilious Stools.— *Hippocrates* observes, that this thick subsiding reddish Urine in Pleurisies is a secure Sign *, and that it carries off Peripneumonies when thick and plentiful †.— He describes these concocted Urines as having ὑποστάσιας ὑπερύθρους ὁκοῖον Ὀροβοῦ ‖, that is, a Kind of a pale lateritious Sediment, as we call it.—But he justly observes, it is an exceeding ill Symptom, if, from being before thick, they grow thin about the fourth Day ‡;—and so it is indeed at any Time of the Disease, whilst the Fever continues very considerable.

Nothing promotes these Urines and Stools more effectually than emollient laxative Clysters, as they are a Kind of Fotus, and gentle Stimulant, to all the Parts of the lower Belly, and not only tend to discharge Urine and Stool, but Wind also, which sometimes, by huffing up the Abdomen and Midriff, greatly straiten the Respiration.— Besides when gross Excrements press on the Bottom of the *Aorta*,

* 586 *Coac. Prænot. Edit. Foësii.* † *De Vict. acut. Sect.* liii. *Ed. Linden.* ‖ *Ibid.* ‡ *Coac. Prænot.* 53. *Cap. de Pleuritid.*—20. *Cap. de Urinis, Edit. Dureti.*

and

and Heads of the *Iliacs*; too much Blood regurgitates to the ſuperior Parts, particularly the Breaſt, which encreaſes the Inflammation, Oppreſſion, &c.——*Hippocrates* therefore adviſes * cooling Clyſters in peripneumonic Fevers, eſpecially the firſt three Days †; and *Aretæus* ſays, we ſhould inject an acrid Clyſter, in ſome Caſes, when we cannot well bleed ‖.—The greateſt Care however ſhould be taken not to throw the Patient into a profuſe Diarrhœa, which will ſuppreſs the Expectoration without relieving the Diſeaſe; and accordingly the great Oracle of Phyſic ‡ ſays, it is a bad Symptom where it happens to Pleuritics and Peripneumonics; becauſe when there is a great Flux of Humors downwards, the ſuperior Parts grow dry, the Spitting ceaſes, and the Sick die **: So that the Body ſhould not be too coſtive, which would encreaſe the Fever; nor too looſe ††, leſt the Spitting and Strength of the Patient fail.—This is *Hippocratic* Phyſic, and I am ſure as rational, and well founded, as any of the modern.—But to proceed.

Sometimes the morbid Matter is critically tranſlated to the lower Parts, producing Phleg-

* *De Affect. Sect.* viii. *Edit. Linden.* † *De Vict. acut. Sect.* lii. *Edit. Linden.* ‖ *De curatione Pulmonar.*

‡ *Hippocrat. Aphoriſm.* 16. *Sect.* iii. ** *Lib.* III. *de Morb. Sect.* xvii. *Edit. Linden.* †† *Ibid.*

mons,

mons, Impoſtumes, eryſipelatoſe or œdematous Swellings, Ulcers, *&c*; particularly in Perſons formerly ſubject to ſwoln or ſore Legs, which are frequently noted to ſwell, or break up again, at the Cloſe of peripneumonic Diſorders, to the great Relief of the Breaſt. It is a well known Thing, that on drying up Ulcers in the Legs ſuddenly, the Lungs become forthwith affected; and that hydropic Tumors of theſe Parts, forced up by laced Stockings, Bandage, *&c.* immediately bring on aſthmatic Diſorders: Which ſufficiently ſhew the natural Conſent there is between the Breaſt and lower Parts, and that they are reciprocally affected by Diſorders.—Wherefore it ſeems rational, in ſevere pulmonic Diſorders, to attempt a Derivation of the Humors to the Legs by tepid Bathing, Bliſters, *&c*: And in Fact this hath been often practiſed with Succeſs.—How often do we find a *Metaſtaſis* of the Gout to the Lungs ſuddenly relieved by a *Revulſion* of it to the Feet by acrid Cataplaſms? Where there is great Danger, we ſhould neglect nothing.—When Bliſters, applied to the Legs in pulmonic Diſeaſes, ulcerate ſeverely, they commonly give great Relief; but they are often exceeding difficult to be healed up.—This was particularly remarkable in the Year 1740—41—46—47 *.—I then alſo obſerved, that if the

* *Vid. Obſ. noſtr. de Aere & Morb. epidem. Vol. II.*

Diſcharge,

Diſcharge, from the ulcerated Bliſters, was ſuddenly ſuppreſſed; not only the Cough and Difficulty of Breathing returned, but ſometimes a very great Purging, and ſometimes very profuſe Sweats forthwith came on: So that, in not a few Caſes, the Patient was either worn out by the Pain and vaſt Diſcharge from the Bliſters, or run down by a colliquative Diarrhœa, or Sweat; terrible *Aphthæ* frequently cloſing the fatal Scene.—Probably this aroſe from the great Acrimony of the Lymph and Serum, which having been jellied as it were by the preceding Fever, and now diſſolving, was turned into a Kind of putrid *Ichor* (for when *Serum* is coagulated by Heat, its next State is a putrid *Liquæmen*, or Diſſolution): Nor did it only iſſue in profuſe Stools and Sweats, but vented itſelf likewiſe by other Ways, as very foul, ſharp, turbid Urine, puſtular Eruptions, angry Boils, watery Bladders, very painful and fretting, on ſeveral Parts of the Body; as the Shoulders, Arms, Back, Breaſt, *&c.*—From ſome Obſervations of this Kind, it is likely, the Ancients (who always carefully ſtudied to follow and ſecond Nature's Endeavours) applied *acrid Epithems*, as Salt, Muſtard, *&c.* to the Breaſt, Back and Shoulders, in pulmonic Diſtempers. It is certain there is a great Conſent between the Skin and the Lungs, as is evident in a repelled Itch, Small-pox,

Meaſles,

Meaſles, *&c.* which immediately fall on the Breaſt.—Therefore bliſtering the above Parts, after a proper Quantity of Blood is drawn off, ſhould ſeem a rational Practice, eſpecially towards the Decline of peripneumonic Fevers.

Though Nature takes ſometimes theſe different Methods of relieving herſelf in peripneumonic Diſeaſes, yet her proper and common Effort is by Expectoration; and while that proceeds well, we may indeed favour her Attempt, but never interrupt it, which violent Purging, Sweating, and the like, will infallibly do:— So that thoſe other, juſt now mentioned, ſeem only the By-ways of Nature, and the morbific Matter is then only to be ſtrongly ſolicited through them, when the high Road is either ſtopped, or greatly embarraſſed.

CHAP. III.

Of the Peripneumonia notha.

WHAT I have ſaid above relates to the Nature and Management of inflammatory, or true Peripneumonies; but there is a Diſeaſe, noted chiefly by *Sydenham*, and the later Authors, under the Name of a *Peripneumonia notha*, in which, though the Load at Breaſt is very great, the Breathing very difficult, and the Cough very importunate, and

ſometimes

ſometimes violent, (all ſufficiently denoting the Lungs to be conſiderably affected); yet the Fever and Heat are ſmall, many Times ſcarce perceptible, the Pulſe either quick, weak and ſmall, or ſluggiſh and oppreſſed, never hard and tenſe.—So that as this Diſtemper hath very different, and almoſt quite contrary Symptoms to thoſe of a true Peripneumony in ſeveral Reſpects; it is reaſonable to ſuppoſe it ariſes from very different Cauſes, and requires a very different Method of Cure.——And in Fact we ſee, that baſtard Peripneumonies commonly ſeize the old and phlegmatic, the weak and lax, the fat and unwieldy, and are moſt rife in wet, ſlabby, foggy Weather and Winter Seaſons; whereas the true inflammatory Peripneumony generally attacks the robuſt, vigorous and active, and is moſt frequent in cold, dry Weather, during north-eaſt Winds, and high Stations of the Barometer. Theſe two Diſeaſes then ſeem to differ almoſt as much as ardent and ſlow nervous Fevers; or as much as an inflammatory Quinſy doth from one that is purely humoral, or ariſing merely from a ſerous Defluxion.——And ſuch a ſerous acrid *Colluvies* may fall on the Lungs, be diffuſed into and amongſt the inmoſt Receſſes of their veſicular and cellular Cavities, and occaſion a great Oppreſſion on, and ſome Degree of Obſtruction in, the pulmonic and bronchial Arte-

ries,

ries, and ſo greatly hinder a regular Circulation of the Blood through the Lungs. The frequent Chills and Fluſhes of Heat however, the Quickneſs and Irregularity of the Pulſe, Anxiety and Weight at Breaſt, Pain and Giddineſs of the Head, Foulneſs of the Tongue, *&c.* ſufficiently indicate a feveriſh Habit.

Upon the whole, this Diſeaſe ſeems to have its Origin from a *pituitous Lentor* of the Blood, and a *ropy* Diſpoſition of the *Lymph* and *Serum*; which being greatly redundant from ſuppreſſed Perſpiration, *&c.* and put in Motion by a febrile Heat, or ſudden Agitation of the Humors, is thrown on the Lungs faſter than it can paſs off (for viſcid Humors never paſs as freely through the Extremities of the Arteries as when more thin and fluxile); whence, being there more and more congeſted, it more and more obſtructs the pulmonic Veſſels, till at laſt a fatal Stagnation enſues, and Death the Conſequence.—We ſee this exemplified in a particular Manner, by bringing on an artificial Peripneumony, if I may ſo call it; *viz.* Let a Girl labouring under a *leucophlegmatic Chloroſis* (where ſuch a heavy viſcous *Pituita*, as I have mentioned, predominates) be forced into great and long continued Exerciſe; her Lungs at length become ſo ſtuffed and loaded, that ſhe falls into a vaſt Difficulty of Breathing, and even an entire Suffocation.—This hath really

happened

happened in ſeveral Inſtances, where the Exerciſe hath been puſhed too far.— I might have taken Notice alſo, that ſuch a pituitous Lentor of the Blood and Humors doth not give off a ſufficient Quantity of animal Spirits, to actuate the Veſſels with Force enough to carry on a due Circulation.

As there are many intermediate States, between the violent inflammatory Peripneumony, and this laſt mentioned, no diſtinct ſettled Method of Cure can be laid down; becauſe the peripneumonic Malady, to be immediately treated, may ſometimes incline much more to the inflammatory State, and ſometimes much leſs.

For a Diſeaſe is a Diſorder in the animal Œconomy, diſtinguiſhed indeed by ſuch and ſuch particular Symptoms, and called by ſuch or ſuch a Name; but each particular Diſeaſe, in every individual Patient, is to be conſidered by the attending Phyſician, not according to the *Nomenclature*, but according to the Nature, Cauſes and Symptoms of the particular Diſeaſe in that particular Perſon; and Meaſures ſhould be taken accordingly.—Thus if I meet with a great Load and Uneaſineſs at Breaſt, a difficult hot Breathing, Cough, *&c.* with a full, ſtrong, quick Pulſe, or a very tenſe and hard one, in a ſtrong and vigorous Perſon; I have a ſufficient Warranty to be much more free and frequent

quent in Bleeding, than where the Oppreſſion, Cough, *&c.* are not attended with ſuch a rapid and ſtrong, or quick and tenſe Pulſe; eſpecially if I previouſly knew the labouring Perſon to be of a weak, lax, or phlegmatic Conſtitution.

So that when the Pulſe is weak and low, the Heat little, or not conſiderably above the natural, the Urine pale and crude, and ſo on; I muſt proceed with great Caution in bleeding a pulmonic Patient, though the Load and Oppreſſion at Breaſt may be very urgent. — And in Event when Blood is drawn from a Perſon under a baſtard Peripneumony, it either appears looſe, thin and florid, or more commonly of a darkiſh livid Hue, and not coated over with a thick viſcid *Buff*, as in common Inflammations of the Lungs.—And it is obſervable that the Patient ſoon ſinks, and grows conſiderably weaker after ſuch an Evacuation, though, for the preſent, ſeemingly relieved, as to the Anxiety and Load on the *Præcordia*: For as Bleeding, in this Caſe eſpecially, weakens the Powers of Nature, and the Action of the Solids on the Fluids: the morbific Lentor, the continent Cauſe of the Diſeaſe, is thereby encreaſed.—Of this *Sydenham* himſelf was ſo ſenſible, that he particularly cautions againſt repeated Bleedings in a *Peripneumonia notha*, eſpecially in Perſons of a groſs Habit of Body,

and that had paſſed the Flower of their Age*; though in a true Peripneumony, he imagined he could as effectually *vent* the Matter of the Diſeaſe through the *Orifice of a Vein*, as by the *Trachea itſelf* †.— It is moreover certain, that common *catarrhal Fevers*, in which a ſerous *Colluvies* abounds, will not bear very large Bleeding, much leſs a *Peripneumonia notha*, where a ſlimy *Pituita* is redundant.

But as Bleeding, on the one Hand, is to be uſed with great Caution in this Diſorder, ſo on the other are very heating and ſtimulating Medicines, eſpecially at the Begining of the Diſtemper; otherwiſe not only the Oppreſſion on the Breaſt is greatly oppreſſed, but a comatoſe Diſpoſition alſo is readily brought on. For the morbid Lentor may be forced in too great Quantities on the Veſſels of the Brain, and accumulated there, as well as in the Lungs; and evidently is ſo from the Giddineſs, Pain and Heavineſs of the Head, which commonly attend the baſtard Peripneumony: For as the free Deſcent of the Humors from the Head is conſiderably hindered by the too great Repletion of, and almoſt Stagnation in, the Lungs; the right Ventricle of the Heart hath not ſufficient Room to play off its Contents of Blood, and receive others freely.

* *Cap. de Peripneumonia notha.* † *Cap. de Pleuritide.*

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We ſhould proceed therefore with great Circumſpection in treating this Kind of Diſeaſes, which are always dangerous, and frequently fatal; and the more ſo, as, at the Begining, the Mildneſs of the Symptoms is too apt to miſlead both the Patient, and leſs cautious, or unexperienced Phyſician, into too great a Neglect, or wrong Management. I have ſeen it more than once, or twice, taken for a mere Fit of *Hypochondriaciſm*, where a very few Hours have ſhewn the fatal Miſtake. — But where a perpetual laborious Wheezing, great Anxiety and conſtant Oppreſſion on the *Præcordia*, comatoſe Symptoms, cold Extremities, and dark lead-coloured Nails and Viſage are come on; the Phyſician muſt be more ſtupid than the Patient, not to ſee the immediate Danger.

I think in general more or leſs Blood ſhould be drawn in the Begining; but, as *Sydenham* well obſerves *, during the Operation let the Patient be kept in a recumbent Poſture, by which means Faintneſs, otherwiſe very apt to come on, will be avoided.—For this not only leſſens the too great Load and Diſtenſion of the Veſſels, but alſo makes Room for ſuch Drinks and Medicines as may be neceſſary in the Proceſs of the Cure: But as to the Repetition of Bleeding we ſhould be very cautious, and well conſider the State of the Blood, the

* *De Peripneumonia notha.*

Strength of the Pulſe and Patient, before we adviſe it. It is undoubtedly ſometimes neceſſary.—We are frequently obliged to bleed repeatedly in aſthmatic Paroxyſms, where there is no Manner of Fever.—Mild, attenuant, ſaponaceous Medicines, thin diluting detergent Drinks, and the Application of Bliſters ſhould ſucceed Bleeding: An Infuſion of inciding, deterging, pectoral Herbs, as Ground-ivy, Hyſſop, Penny-royal, Liquorice, or a thin Muſtard-whey ſweetened with Honey, and ſharpened with Lemon, are proper for common Drink. ——Some Dilution is neceſſary in this Diſeaſe, though nothing ſo much as in a true Peripneumony, nor indeed doth Nature call for it by any great Thirſt; yet as the Lentor, predominant in this Diſorder, is moſt readily diſſolved by warm watery Liquors, ſome are undoubtedly proper.

As a baſtard Peripneumony is commonly attended with frequent Urgings to vomit, I think it pretty clearly hints to us the Expediency of relieving Nature that Way; and accordingly I have often experienced the good Effects of gentle Vomits in it, after ſome Blood had been drawn off. —— A Spoonful or two of *Oxymel ſcilliticum*, or *Vinum Ipecacoanhæ*, with a few Draughts of Muſtard-whey, or the like, are ſufficient: A large Quantity of any Kind of Liquor ſhould not be drank.— This not only

pumps

pumps up much heavy *Pituita* from the Stomach and Lungs, but alſo, by the Concuſſion it gives to the whole vaſcular Syſtem, promotes a general Attenuation and Fluxility of the Humors; and a Stool, or Sweat commonly ſucceeds.

The mighty Cures, in Pleuriſies, *&c.* boaſted of by *Rulandus* *, and others with the *antimonial Aqua benedicta*, were greatly owing to its emetic Quality; and the famous *Poudre des Chartreux* †, or *Kermes mineral*, gained ſuch high Repute in Pleuriſies, Peripneumonies and Defluxions on the Breaſt, in a great Meaſure at leaſt, from the gentle Efforts it creates to vomit.—Undoubtedly it hath had good Effects in catarrhal Fevers, and pituitous Peripneumonies; but to give either the one or the other in inflammatory Peripneumonies, or Pleuriſies, without previous Bleeding, is utterly wrong, dangerous and empirical.

Let me here take Notice of what I many Years ago mentioned, that the beſt of all the antimonial Preparations, I have ever tried, (and I have tried many) is in my Opinion the *common Vinum benedictum*, or Infuſion of Glaſs of Antimony in Wine ‖.——It is ſurpriſing we ſhould ſeek for any other, as this poſſeſſes the whole

* *Mart. Rulandi Curat. empiric. paſſim.*

† See *Memoires de l'Academie royale des Sciences, ann.* 1720.

‖ *Vid. Obſ. noſtr. de Aere, &c. Vol. I. p.* 140. there called *Eſſentia Antimonii.*

Virtues of Antimony. You may make it a rough Emetic in a large Doſe, you may give it in a few Drops, ſo as merely to excite Perſpiration:—With it you may puke, you may purge, you may ſweat;—from ten to fifty, or ſixty Drops it is an Attenuant, Alterative, Diaphoretic and Diuretic; a few more gently purge; and every one knows a large Doſe ſtrongly vomits: What will any other Preparation of Antimony do more? Here it is in *ſolutis Principiis*, as the Chemiſts ſpeak, in mere *Effluvia* as it were, in the moſt highly attenuated Manner, and moſt intimately and adequately mixed with the *Menſtruum*; capable of paſſing and affecting the moſt intricate *Mæanders* of the very minuteſt Veſſels, and yet powerful enough to ſtimulate the great alimentary Canal.—The common ſolid Preparations of Antimony are either a mere *inert Calx*, or very uncertain in their Operations, ſometimes very rough, ſometimes lying a long Time in the Stomach and Bowels, and exciting very untoward Symptoms; whereas this quickly acts, and as quickly paſſes off.—It certainly is an admirable Attenuant and Deobſtruent, without heating a tenth Part ſo much as volatile alkalious Salts, and in moſt Caſes much more ſafe and efficacious, particularly in the Diſeaſe now treated of.—In a Word it much more deſerves the Name of a *Catholicon* than any of the boaſted

boaſted *Noſtrums*, that are quacked upon the World by the great *W——d*, or the meaneſt Itinerant.—In good Hands it will certainly do great Things.—The timid, low, inſipid Practice of ſome is almoſt as dangerous, as the bold unwarranted Empiriciſm of others: Time and Opportunity, never to be regained, are often loſt by the former; whilſt the latter, by a *bold Puſh*, ſends you off the Stage in a Moment.

Bliſters ſhould never be neglected in a *Peripneumonia notha*, as not only ſerviceable from their attenuating and ſtimulating Quality, but alſo as they drain off Part of the morbid Colluvies: A large one to the Neck ſhould always be ſet on at the Begining, and Epiſpaſtics to the Legs and Thighs are often found to relieve the Head and Breaſt, when other Methods fail.—But as it frequently happens, in this Diſorder, that the Limbs grow torpid and coldiſh, a very bad Symptom! they ſhould be well rubbed before the Bliſters are laid on, and then well wrapped up in Flannel (which by the Way is frequently alſo neceſſary in low nervous Fevers); for this very much promotes the Riſing of the Bliſters, and the conſequent Diſcharge.

When comatoſe Symptoms and a very difficult Reſpiration remain after Bleeding, you may draw off more Blood by cupping and ſcarifying the Neck and Shoulders, when you cannot venture to open a Vein again; and this

hath frequently a ſurpriſing good Effect: In a very threatening Caſe you ſhould bliſter the Scarifications.

Frequent Stools are certainly uſeful in this Diſorder. *Sydenham* adviſes Purging every other Day * after bleeding once and again, but I think this is over-doing it in both Reſpects: For though Bleeding and Purging too, may be neceſſary at the Begining; yet it is very ſeldom proper to repeat the former, and the latter muſt be managed with ſome Caution, eſpecially when repeated. For the Patient is apt to fall into Faintneſs, cold Sweats, *&c.* unleſs properly ſupported during the Operation; which indeed may be eaſily done; but ſurely in moſt ſuch Caſes it requires more than Small-beer, and Water-gruel, to do it.——— There is one Thing to be obſerved, as to both theſe Evacuations, and that is, that if the Sick ſpit largely a concocted Matter, which is ſometimes the Caſe even in this Peripneumony, neither one nor the other is proper; and laxative Clyſters or mild *Eccoprotics* only ſhould be given, at leaſt during the copious Expectoration; and thin Muſtard-whey, *Hydromel*, or pectoral Decoction, with a ſmall Quantity of ſoft white Wine in them, ſhould be given frequently to promote it.—*Hippocrates*, in ſeveral

* *Cap. de Peripneum. notha.*

Places,

Places, adviſes *Hydromel*, and ſweet and watery Wine * in Pleuriſies and Peripneumonies, to promote Spitting. Diuretics in this Caſe, if we are happy enough to ſucceed with them, are of very great Service, eſpecially provided we can promote a *foul hypoſtatical Urine*: But the Truth is, in this Diſorder, very little is to be depended on Urine, either as to *Criſis*, or *Prognoſtic*; only a thin, pale, or limpid Urine is univerſally bad in pulmonic Diſorders.

Nitre, *Sperma ceti*, Cinnabar, Saffron, *Pulv. contrayerv.* Camphire, *Sp. vol. oleoſ. Lac ammoniac.* and *Oxymel ſcilliticum*, Decoctions of Figs, Liquorice and Elecampane, are the moſt adapted Parts of the *Materia medica* in this Diſtemper: The *ſaline Draughts*, made with *Salt or Spirit of Harts-horn and Juice of Lemon, or diſtilled Vinegar*, are exceeding uſeful; as they promote Expectoration greatly, relieve the Difficulty of Breathing, and commonly operate by Sweat, or Urine.—But Opiates and oily mucilaginous Medicines are hurtful, and ſo are the highly ſtimulant and volatile if given too early, though they ſometimes have a good Effect towards the End.——But the different Degrees of Heat, Fever, and Difficulty of breathing, the State of the Pulſe, Blood, and other concomitant Symptoms, can only deter-

* Οἶνῳ γλυκὺς καὶ ὑδαρὴς, *Lib. III. de Morb. Sect.* xxiv. *Ed. Lind.*

mine

mine in what Manner, and to what Degree, very attenuating and warm Medicines, or thoſe of a cooler Kind, may be made Uſe of.

CHAP. IV.

Of Pleuriſies.

A Violent Pain on either Side of the Breaſt, attended with an acute Fever, is commonly called a *Pleuriſy*; and this whether it ariſes from an Inflammation of the *intercoſtal Muſcles*, the *Perioſteum* of the Ribs, or the *Pleura* itſelf; which laſt indeed, in Strictneſs of ſpeaking, is only the true Pleuriſy, the former being Species of an inflammatory Rheumatiſm, and are called *baſtard*, or *ſpurious Pleuriſies*.—However as they greatly affect the Reſpiration, when violent, they are always attended with much more ill Conſequence than rheumatic Pains in other Parts of the Body, and demand a particular Regard, and a ſpeedy Removal.

For as the Violence of the Pain hinders a due Expanſion of the *Thorax*, the Reſpiration is immediately affected; hence, the Lungs not being ſufficiently inflated, the Blood cannot paſs freely from the pulmonic Arteries to the pulmonic Veins, and ſo into the left Ventricle of the Heart; Whence a Congeſtion, and ſome De-

gree

gree of Stagnation of the Blood in the Lungs will ariſe.—Now as the right Ventricle of the Heart is continually throwing more Blood into the pulmonic Artery, its Branches become more and more diſtended, till at length they are rendered ſo very turgid, as to preſs on and obſtruct the Branches alſo of the bronchial Arteries; and thus an Inflammation of the Lungs, or a compleat Peripneumony, is often the Conſequence of a true, or baſtard Pleuriſy, eſpecially when the Blood is very viſcid.——Indeed whatever interrupts a free Inſpiration and Expiration is apt to produce this.—Thus oftentimes a Quinſy brings on a Peripneumony, the free Paſſage of the Air, through the *Glottis* into the Lungs, being obſtructed.—*Frederic Hoffman* * takes Notice that even flatulent and ſpaſmodic Colics, continuing any Time, are often ſucceeded by Pleuriſies and Peripneumonies; the Pains, Spaſms and Flatulence impeding the free Action of the Diaphragm;—and partly alſo, as he ſays, by hindering a due Paſſage of the Blood through the *Viſcera of the Abdomen*, by which too much is thrown on the Lungs, Pleura, *&c.*—Very ſtrait Lacing, and Straining for a fine Shape, hath made many a fine Girl ſpit Blood, and ruined the Lungs, by preventing a full and eaſy Inſpiration.—A fractured Rib, or even a ſimple Contuſion of the

* *Conſult. Medicinal. Tom. I. Francof.* 1734. 4*to*, *p.* 458.

Breaſt,

Breaſt, very often brings on a *Hæmoptoë*, Cough, *&c.*—In Truth when any of the Muſcles, that are but even ſubſervient to Reſpiration, are greatly affected, peripneumonic Symptoms may come on. *Monſieur Mery* * mentions the Caſe of a young Man, wounded in the Tendon of the *Pectoralis major*, who was forthwith ſeized with a very great Difficulty of breathing, and an acute Fever.—In a word all Kinds of Pains in the Breaſt, and Pleuriſies eſpecially, are in a peculiar Manner dangerous; as they are very apt to bring on more or leſs of a Peripneumony, by cauſing a great Interruption to regular and eaſy Reſpiration.—And this is the Reaſon, why we meet with many more pleuritic Fevers, accompanied with peripneumonic Symptoms, than true and exquiſite Pleuriſies: Where a ſevere Pain of the Breaſt is attended with an acute Fever, Load at Breaſt, Cough, Difficulty of Breathing, Expectoration, or Spitting of Blood; this is always the Caſe, and is very properly denominated a *Pleuro-peripneumony*.—Indeed it ſometimes happens, that, upon the coming on of the Peripneumony, the Pain of the Side ceaſes; which may happen, when the Infarction of the Lungs is ſo great, that little Blood paſſes from the right Ventricle of the Heart to the left, and the *Aorta* is not half

* *Memoires de l'Academie royale des Sciences*, 1713.

ſupplied with Blood: So that the Powers of Nature ſinking for Want of it, all tends to an univerſal Stagnation, and the Patients become as it were inſenſible, or, as *Aretæus* * ſays, complain of nothing, though their Pulſe intermits, and their Extremities are cold. I have ſeen ſeveral ſuch Inſtances.—About four Years ſince one Mr. *Cam*, a Sailor, was ſeized with a compleat *Paraplegia* about the 9th Day of a *Pleuro-peripneumony*, and about twenty-four Hours before his Death.—It is a fatal Symptom therefore when the pleuritic Pain ſuddenly ceaſes, and yet the Difficulty of breathing and Load at Breaſt ſtill continue, or encreaſe. — And the following *Aphoriſm* is moſt certainly true; "*A* "*Peripneumony ſupervening a Pleuriſy is dan-*" *gerous* †.

But the Nature and Conſequences of Pleuriſies will more fully appear from the following Conſiderations.

1*ſt*. The inflamed *Pleura* is apt to cleave to the external Membrane of the Lungs, and propagate the Inflammation to them; and this will more eaſily happen, when either by Nature, or Diſeaſe, a previous Coheſion had been partly formed: Hence thoſe that have once laboured under a Pleuro-peripneumony, are often afterwards ſubject to the like Diſorder;

* *De Pulmonaria.* † *Hipp. Aphoriſm.* 11. *Sect.* vii.

the

the *Calloſity*, as I may call it, formed by the *Concretion*, ſtraitening the Blood-veſſels of the *Pleura*, and making them more liable to be obſtructed by a ſizy Blood for the future.—— Not to mention the more or leſs Impediment, which the Adheſion of the Lungs to the Pleura gives to full and free Reſpiration.

2*dly*. As the external Membrane of the Lungs is only a Continuation of the *Pleura* itſelf, the Inflammation may be diffuſed from one Part of the *Pleura* to another, and even to that which immediately inveſts the Lungs; for it may ſpread a conſiderable Space, juſt as we often ſee a ſmall inflammatory Speck on the Eye ſoon ſpread into a general Inflammation of the whole Globe, Eye-lids, &c.—Beſides the Inflammation may primarily fall on this Membrane of the Lungs, and then Pains, altogether like the pleuritic, will ariſe, though the internal Membrane of the *Thorax* (or Pleura) may not be affected. — I am quite of the experienced *Hoffman*'s † Opinion, that this is often the Caſe.

3*dly*. The very *Mediaſtinum* is but a *Duplicature* of the *Pleura*, and an Inflammation may attack any Part of it, or be propagated to it; in which Caſe very acute Pains are felt under the *Sternum*, or between the Shoulder-blades:

† *Cap. de Febribus pneumonicis, Tom. IV. Parte* i.

This

This we ſometimes meet with, and it is generally attended with great Danger.—Both *Hippocrates* * and *Aretæus* † take Notice of a *dorſal Pleuriſy*, in which the Pain ſhoots from the Spine to the Breaſt-bone, attended with an *Orthopnœa*, Cough, and a very difficult and ſmall Expectoration. — This ſeems to be the Caſe mentioned. — Sometimes the Pain is forward and directly under the *Sternum*, where the *Mediaſtinum* is attached to it, and in Conſequence of it Apoſtems have been found in that Part. —When the Pain ſeems to lie very deep in the Cheſt, with a great Load and Anxiety, Palpitation of the Heart, and a conſtant Inclination as it were to raiſe a Cough, the *Pericardium* (the external Membrane of which is alſo from the *Pleura*) is commonly inflamed.—Where the Pain is ſpread all over the Breaſt, with a great Oppreſſion, and perpetual darting pricking Pains here and there; not only the *Mediaſtinum*, but the external Membrane of both Lobes of the Lungs ſeems to be inflamed: The great Difficulty of Breath, Load and Anxiety, perpetual Cough, and conſtant Deſire of ſitting up erect, ſhew this to be the Caſe; and a very dangerous one it is, as well as an Inflammation of the *Pericardium*.—Inflammations of the *Mediaſtinum*, *Pericardium*, and Membranes of the

* *Lib. III. de Morbis, Sect.* xxi. *Edit. Lindeni.* † *Cap. de Pleuritide.*

Lungs,

Lungs, ſeem to be what the Ancients called an *Eryſipelas of the Lungs*; *Hippocrates* deſcribes it as an acute Fever, with great Pain in the fore Parts of the Breaſt and in the Back, with much Load, ſeeming Fulneſs, and a dry Cough *.

4*thly*. The upper Membrane of the *Diaphragm* is likewiſe from the *Pleura*, and may be either primarily inflamed, or ſecondarily from the Inflammation of the Pleura: And this certainly happens more commonly than is imagined.—This is called a *Paraphrenitis*, and is attended with a very acute Fever, and a very violent Pain extended from the lower Ribs to the loweſt *Vertebræ* of the Back, a ſhort, convulſive, *ſingultuoſe* Kind of breathing, a vaſt Anxiety and Uneaſineſs, dry Cough, Hiccup and Delirium; an exceſſive Pain is particularly felt on every Inſpiration, which darts itſelf from the Pit of the Stomach to the very Loins; the *Hypochondrium* of the Side affected is drawn inwards, and upwards † under the Ribs, and the Abdomen is ſcarce perceptibly moved in Reſpiration, but remains fixed and convulſed as it were by the Violence of the Pain, in attempting an Inſpiration.

Any Part therefore of this widely expanded Membrane being inflamed, a Kind of Pleuri-

* *Lib.* I. *de Morbis, Sect.* xiii. *Edit. Linden.*

† *Si ſeptum tranſverſum percuſſum eſt, præcordia ſurſum contrahuntur. Celſus, Lib. V. Cap.* xxvi.

ſy is generated, in which the Lungs themſelves by *Continuity*, *Contiguity*, *Cohesion*, or *Sympathy*, will ſoon become greatly affected. — Nay the Lungs may, and often are found to adhere to the *Mediaſtinum* and *Diaphragm*, as well as to the *Pleura* commonly ſo called. — But if the Lungs ſhould not adhere to any Part of the *Pleura*, peripneumonic Symptoms may ſupervene an Inflammation of it; becauſe the Let and Hinderance it gives to a regular Reſpiration will greatly interrupt a due Circulation of the Blood through the Lungs.—The ſame may be ſaid with Reſpect to any conſiderable Inflammation of the intercoſtal Muſcles, or *Perioſteum* of the Ribs.—Indeed in theſe Caſes the peripneumonic Symptoms may not preſently come on, nor commonly do they till after two, three, or four Days; but as the inflammatory Pain hinders a due Expanſion of the *Thorax*, and a ſufficient *Inflation of the Lungs*, they at length alſo may become greatly affected.

Theſe then being too often the Conſequences of pleuritic Fevers, we ſhould endeavour to take off the Inflammation in a true, or baſtard Pleuriſy, as ſoon as poſſible, by large and repeated Bleeding, cooling nitrous Medicines and Drinks, Fomentations, Opiates, *&c.*—— In a Word, we ſhould treat the Caſe as a *mere Inflammation of the Membranes, Muſcles, or Perioſteum*; but when a Load at Breaſt, Cough,

Expectoration, *&c.* come on, we muſt have a Regard to theſe alſo, as well as to the Pain of the Side, *&c.*

And it is that the Nature, Situation, and Difference of the Diſeaſes of the Breaſt, and Lungs, may be more eaſily known and diſtinguiſhed in Practice, that I have been ſo particular in deſcribing them: For it would be no ſmall Abſurdity to give Expectorants, *oleaginous Linctus*, and Pectorals, in a ſimple Inflammation of the Muſcles of the Breaſt, or Pleura; even although a ſlight ſymptomatic Cough, and ſome Difficulty of breathing ſhould attend, eſpecially at the very Acceſs of the Fever; whereas well timed Bleeding, and a proper Regimen would have ſoon carried off the Diſorder.—On the other Hand, it would be altogether as wrong to reſt ſolely on Bleeding and Fomentations, where the Lungs alſo were primarily, or even ſecondarily, affected in any conſiderable Degree.

The Diſtinction of Pleuriſies into *true* and *baſtard* hath a real Foundation in Nature, and is of ſome Import in Practice, for when the intercoſtal Muſcles only are inflamed, much more is to be expected from topical Applications, as Fotus, Cataplaſms, Bliſters, Cupping and the like, than when the Pain of the Side is from an Inflammation of the *Pleura*, or external Membrane of the Lungs.—The Sore-

neſs

neſs to the Touch, the Pain on lying on the affected Side, and chiefly on a full Inſpiration, the Tumor and Redneſs of the Part which ſometimes appear, diſtinguiſh this from the internal Pleuriſy.

Beſides there are ſome Pains of the Side, and thoſe too pretty ſevere, which ariſe from a ſharp acrid Defluxion on the Muſcles of the Breaſt, and Periоſteum of the Ribs; and which much ſooner give Way to topical Applications, edulcorant Medicines, and proper Purges, than to Bleeding, which in ſuch Caſes is no further neceſſary than to take off a *Plethora*, if it ſubſiſts.— Indeed where an acrimonious Humor is the Cauſe, you may bleed and bleed on to very little Purpoſe, but that of weakening your Patient. Will Bleeding cure obſtinate ſcorbutic or venereal Pains? It may as well remove the Pain from a rotten Tooth, or a Thorn in the Fleſh.

The Ancients well diſtinguiſhed between wandering rheumatic, or flatulent Pains about the Breaſt and Side, and the truly pleuritic. *Hippocrates* juſtly ſtyles them Ἀλγήματα ἰσχνῶς ἐξηκότα ἄσημα *, and forbids Bleeding in them;

* Shifting, erratic, ſlight Pains, *without the true Pleuritic Symptoms*; *Coac. Prænot.* 491. *Edit. Foëſii.* — Compare this with the Caution about Bleeding at the End of *Duretus*'s ſecond Book on the *Coac. Prænot.*

Theſe they attempted to cure by Fomentations, Purging, *&c.* not by Bleeding: whereas the fixed, *ſyſtrophic* Inflammation of the Breaſt, as the *Commentators call it*, always required Bleeding.—And we eventually find erratic, ſcorbutic, rheumatic Pains much better carried off by Purging, Fotus, Diaphoretics and Edulcorants, than by Bleeding.—Some of them indeed give Way to nothing but Mercurials, Antimonials, anodyne Plaſters, Cupping, or Bliſtering; and ſome wear off only by Time, Patience and Exerciſe. When the Pains are at the Bottom of the Thorax, in the *Hypochondria*, or below the Midriff, attended with *Borborygmi*, and a tumid Abdomen; Clyſtering, or Purging, is unqueſtionably proper: And yet theſe Pains are ſometimes very acute, and, from the Inflation of the Inteſtins by Wind, oftentimes accompanied with no ſmall Difficulty of breathing; but as *Aretæus* obſerves, they are very improperly called *pleuritic*.— I have many times ſeen ſuch Complaints vaniſh immediately on the Uſe of a Clyſter, or a few Stools, to the Surpriſe of thoſe, who were ignorant of the Cauſe.—Bleeding in this Caſe always encreaſes the Flatulence and Pain.—This is entirely conſonant to the *Hippocratic* Doctrine, and the Truth of Things; for the great Dictator of Phyſic ſays expreſsly, when the Pain is below the *Septum tranſverſum*, and the Abdomen is tumid, you ſhould purge gently

gently with black Hellebore, *Peplium*, *Silphium*, to which add Cummin, Aniſe, *&c.* that it may carry off the Wind as well as the Stool *.

But in all theſe Caſes the Pulſe, Degree of Fever, the Tongue, Situation of the Pain, and Manner of Breathing, pretty clearly diſcover to the judicious Practitioner what is the Matter, and what is to be done.—When the Pain of the Thorax is violent, the Pulſe hard, tenſe and quick, the Fever high; the Pains may be pronounced pleuritic, eſpecially when a *Rigor* preceded.—True pleuritic Diſorders almoſt always begin with a *Rigor*, and the Pulſe is very hard and tenſe, like the Vibrations of a *Cord*: The Pains are very ſharp, pricking and fixed, not tenſive and ſhifting, as the flatulent; nor uncertain, wide and wandering, as the rheumatic.—The Hardneſs of the Pulſe is one of the moſt *pathognomonic* Signs of an Inflammation of membranous Parts; when therefore Pains lie under the *Sternum*, or ſhoot from the Spine to the Breaſt-bone, you may gueſs the *Mediaſtinum* is inflamed, by the Tenſion of the Pulſe.—The Lungs, as *Aretæus* † ſays, being inſenſible (at leaſt much leſs ſenſible) a *Vomica* is often formed in the Lungs without much attendant Pain. The *Membranes* of any *Organ* are vaſtly more ſenſile than what is called its *Parenchyma*, the

* *De Victu acutor. Sect.* xiii. *Edit Lindeni.*

† *Cap. de Pulmonar.*

Ureters than the Kidnies, the Membranes of the Brain than the Brain. — The Hardneſs of the Pulſe then, and Violence of the Pain, may be the chief *Diagnoſtics* in Diſorders of the Thorax, and greatly determine as to Bleeding, *&c.* — I think the Situation of the Pain is not ſo much to be regarded, as ſome make it; for as any Part of the Pleura, intercoſtal Muſcles, or Perioſteum of the Ribs may be inflamed; the Pain may be felt in any Part of the Thorax: And I have known as ſevere Pains near the baſtard Ribs, as in any other Part. *Hippocrates* and his Commentators determine Bleeding to be then peculiarly proper, when the Pain ſhoots up to the Clavicle and Shoulder; but in my Opinion, when the Pain is very ſevere in any other Part, it is equally neceſſary:—The Pain is very low in a *Paraphrenitis*, and yet none more loudly demands it. When the *Pectoralis major* and *Serratus anticus minor* are inflamed, the Pain cannot but dart up to the Shoulder, as their *Tendons* are inſerted near its *Articulation:* This is often the Caſe in a baſtard Pleuriſy, and is moſt effectually relieved by Bleeding and Fomentations; but theſe would be as neceſſary, if the intercoſtal Muſcles, or Perioſteum of any of the Ribs, were inflamed.

Though ſome Pains of the Side may be greatly different from the pleuritic, and require much leſs Bleeding; they ſhould never be neglected,

lected, eſpecially if they conſiderably obſtruct the Reſpiration: For then they are always followed with very ill Conſequences; a ſtrong Inſtance of which you have in the following Hiſtory.

About *Chriſtmas* 1728. Mr. *T—ll*, a worthy ſober Gentleman, about thirty, of a thin Habit of Body, but a lively active Diſpoſition, was ſeized with a Pain in his *right Side*, and grew a little feveriſh; the Pain was ſo ſlight that he never confined himſelf. He was bled however, and took ſome few Things from his Surgeon.——But finding the Pain of his Side daily encreaſing, about three Weeks, or a Month, after the firſt Attack, he conſulted me.—— I found him under hectical Heats, a ſhort Cough and Difficulty of breathing, which laſt he ſaid proceeded merely from the Pain of his Side: He expectorated little, and that with Difficulty; and it was now ſometimes ſlightly tinged with Blood.— I ordered him to be bled, to take an oily expectorating Mixture, *Lac ammoniac. Oxymel ſcillitic.* the ſaline Draughts and pectoral Decoction, and kept him to a cool diluting Regimen. By theſe Means in a very few Days he began to ſpit off a vaſt Quantity of purulent, bloody, and fœtid Matter, which proceeded from a *Vomica* in the *left Lobe* of the Lungs; for he felt a Soreneſs in, and ſaid that the Matter came from, a *Place* to the

left of the *Sternum*, towards the Bottom of the *Thorax*.— At length very little was expectorated, and that neither fœtid, nor bloody; and his Cough daily abated, nor did any great Load at his Breaſt remain: A pectoral balſamic Decoction of the *Bark* ſoon alſo took off his remaining Heats and Sweats; ſo that I flattered myſelf with Hopes of his ſpeedy Recovery.— But, notwithſtanding all theſe promiſing Symptoms, the Pain of his *right Side* ſtill continued, exactly in the ſame Place where it firſt began; nay it ſoon became exceeding violent, ſo that I thought it neceſſary to bleed him again, and even repeat it; I ordered alſo emollient Fomentations, and an anodyne Plaſter of *Opium*, *Camphire* and *Emplaſtr. è Cymino*; and, theſe not availing, cupping on the Part with Scarifications.—All was in vain, for the Pain daily encreaſed, and nothing gave the leaſt Eaſe, or Sleep, but repeated Opiates.—At laſt the Part began to ſwell conſiderably, and manifeſt Signs of an *Abſceſs* came on, which I endeavoured by all proper Methods to promote.— In a few Days the Surgeon opened it, from whence iſſued an immenſe Quantity of purulent Matter, ſo much, that we imagined it came partly from the *Cavity of the Thorax*.— Upon further Examination we found two of the Ribs foul and black, and two Penetrations, one between the fifth and ſixth of the true Ribs (which

were *carious)* and the other between the fourth and fifth, reckoning downwards. He, being exceeding weak, hectical and emaciated, died *March* 29th, 1729.

On examining the Body ſome of the intercoſtal Muſcles, Part of the *Serratus anticus major*, and the ſupreme Portion of the *Obliquus deſcendens* appeared *black* and *ſphacelated*, and the Impoſtume had extended itſelf almoſt home to the *Spine* of the *Back:* The lower Part of the *Pleura* was quite black, and the *Diaphragm alſo on that Side, livid.* The *upper Perforation* entered the *right Lobe* of the Lungs, which, for a conſiderable Way round it, was purulent. —In the left Lobe we obſerved a Kind of *Calloſity*, of a pretty large Extent, where probably the *Vomica* lay; and near the *Vertebræ* a large *Tumor*, bigger than a Turkey-egg, in a State of Suppuration: There were ſeveral other ſmall Tubercles, ſome very hard and almoſt ſtony, ſome ſuppurated and full of *Pus.*—Both Lobes of the Lungs were greatly diſeaſed, and, in ſome Places, quite livid.—They adhered firmly to the *Pleura* in a vaſt many Places, ſome of the Adheſions of a pretty large Extent, ſome by a Sort of fibrous Ligaments. — In the *right Cavity of the Thorax* was about half a Pint of very fœtid dark-coloured Matter.

Probably ſome Obſtructions were formed in this Gentleman's Lungs antecedent to the Pain

of

of his Side, as he had been ſometimes ſubject to a ſhort dry Cough; but I am perſuaded the ſharp Humor, that fell on the Ribs and intercoſtal Muſcles, by hindering a free Reſpiration, greatly contributed towards the Obſtructions and Suppurations in his Lungs; and by preventing alſo a due Expanſion of the *Thorax*, it might encreaſe, at leaſt, the Adheſion of the Lungs to the Pleura.

I ſhall conclude this Chapter with a Word or two on the Method of treating inflammatory Pleuriſies: — In which, without all Doubt, drawing off more or leſs Blood is indiſpenſably neceſſary, previous to any other Attempt of Relief: The Strength of the Patient, Pulſe and Fever, the Violence of the Pain and Difficulty of breathing muſt determine the Quantity. — But let me add, the Quality of the Blood ſhould alſo be nicely inſpected; for a denſe ſizy Blood not only indicates an abundant Quantity of the red Globules, but likewiſe its inflammatory Diſpoſition, and that the Patient, if Need be, can well bear large and repeated Bleeding.

It ſhould be duly conſidered, that if an Inflammation of the *Pleura*, *&c.* is not timely abated by Bleeding, or reſolved by proper diluting, antiphlogiſtic, emollient Drinks and Medicines; it cannot but end in an Impoſtumation, or Gangrene. Beſides theſe Pleuriſies

rarely

rarely fail of bringing on peripneumonic Symptoms, if of any Continuance; and therefore we cannot be too early and earneſt in endeavouring to take off the Inflammation: For the Pain thence ariſing greatly embarraſſes the Reſpiration, and of Courſe the due Circulation of the Blood through the Lungs; which being now alſo in a very viſcid State (the immediate Occaſion of the original pleuritic Inflammation) is much more apt to ſtick in the ultimate Branches of the pulmonic, or bronchial Arteries, than if it was more thin and fluxile. This is the Reaſon, why Pains of the Side, from Inflammation, bring on Peripneumonies much more frequently, than when from a mere acrimonious Defluxion, or the like.—Here therefore *Celſus*'s Maxim is certainly right, *Remedium . . . eſt magni & recentis doloris, ſanguis miſſus*; and what he adds is true likewiſe, *at ſi . . . vetuſtior caſus eſt, . . . ſerum id auxilium eſt* *.

An emollient cooling Clyſter ſhould immediately ſucceed Bleeding, eſpecially if the Body is coſtive, which not only empties the Inteſtins of groſs Excrements and *Flatus*, but alſo derives a greater Quantity of Blood through the deſcending *Aorta* and *Iliacs*, and in both Reſpects eaſes the ſuperior Parts. † *Hippocrates* conſtantly adviſes to clyſter in the Begining of

* *Lib. IV. Cap.* vi. † *De Victu acutor. Sect.* lii.

Pleuriſies,

Pleuriſies, and gives this exceeding good Caution: That we ſhould neither ſuffer the Body to be too coſtive, leſt it encreaſe the Fever, nor too looſe, leſt both the Strength and Spitting fail *.

This done let the pained Part be fomented with a Decoction of *Sem. Lini.—Fœnugræc. Flor. Chamæm.* in Milk and Water.—This was alſo the Practice of the Ancients; *Hippocrates* † ſays Fomentations ſhould be tried both at the very Begining, and afterwards, to reſolve the pleuritic Pains: Theſe, both of the dry and humid Kind, he conſtantly adviſes in Pleuriſies.—I have often ſeen them ſucceed, when repeated Bleeding had proved ineffectual.—Pain, eſpecially inflammatory Pain, always ariſes from too great a Tenſion of the Fibres, which emollient Fomentations, by relaxing, take off. I greatly prefer humid Fomentations, or Cataplaſms, to any Thing of a dry Heat in an inflammatory Pain of the Breaſt, or Side, as they without all Doubt much more efficaciouſly relax: *Hippocrates* himſelf adviſes againſt uſing the *dry Stupes* ‖ too long, and recommends thoſe that are moiſt ‡ near the *Criſis*.——*Celſus* ſays, we ſhould uſe the dry and hot, when the Inflammation is a little abated, and then paſs

* *Lib. III. de Morbis, Sect.* xvii. † *De Vict. acut. Sect.* xi, xii. *Edit. Linden.* ‖ *Ibid. Sect.* xii. ‡ *Lib. III. de Morbis, Sect.* xxiii.

to

to the *Malagmata* *. I commonly apply an anodyne Plaſter of *Opium* ʒi, *Camphire* ϑi, *Emplaſtr. è Cymino*, after due Fomentations, with very good Succeſs, but always firſt try the humid Fotus. — In very threatening Circumſtances, Fomentations may alſo be applied to the Abdomen, *Inguina*, *&c.* which, by taking down the too great Stricture of the Fibres in general, will leſſen the Impetuoſity of the Blood.— Emollient *Baths* would be more effectual, when they can be conveniently uſed; *Hippocrates* ſays they relieve Pains of the Back, Sides and Breaſt: Their exceeding good Effects in *Colics, and nephritic Paroxyſms*, ſhould prompt us to try them in very violent obſtinate Pleuriſies, and a *Paraphrenitis*. — The Ancients ſuppoſed that warm Applications digeſted the Matter, and promoted Expectoration; the latter they certainly do by eaſing the Pain, and giving more Liberty to the intercoſtal Muſcles, *&c.* to expand and contract the Thorax, and pump up the Matter; hence in *Pleuropneumonies* they cannot but be of very conſiderable Service, even in that Reſpect.

Nitrous Medicines, with a cooling, emollient, diluting Regimen, ſhould be forthwith entered upon. Thin Whey, a Decoction of Barley and red Poppies, Emulſions, and ſuch like,

* *Lib. IV. Cap.* 6.

like, answer all the Intentions of Drink; and Nitre both cools and attenuates the Blood: With these should be joined gentle Anodynes, repeated as there may be Occasion; *Elixir paregoricum* and *Diacodium* seem to me the most adapted: To these may be added *Sperma ceti*, a soft relaxing animal Oil, very penetrating, though not heating; and, where the Rigidity of the Fibres is very great, the cool vegetable Oils, as of Linseed, or Almonds, may be given with Advantage. That an emollient relaxing Method is indicated, in the Cure of Pleurisies, is evident from hence, *viz.* That the strong and laborious, Persons of very rigid Fibres, and dry Constitutions, are most subject to this Disease, and suffer most from it, and withal that it rages most in cold and dry Seasons.

The Violence of Pain unquestionably demands the Use of Opiates, after Bleeding, which prudently interposed are certainly of exceeding great Service.—As Pain is a *Stimulus*, which greatly quickens the Circulation, and heats the Blood, and derives likewise more than natural to the pained Part; it cannot but encrease the Inflammation. —— A Thorn in the Flesh will cause some Degree of Fever, and an Inflammation around it.—Moreover when a sharp Cough attends, as in Pleuro-peripneumonies, it should be mitigated by *Diacodium*, or the like; else the great Agitation, it causes,

will

will alſo encreaſe the Inflammation.— It is true indeed, theſe demand ſome Degree of Caution and Prudence in the Uſe of them; therefore ever remember, before you enter upon them, the Lancet is not to be ſparingly uſed, when the Pain is very violent, the Pulſe very hard, quick and tenſe, and the Fever high.——The following Inſtance ſhews what may, and muſt be done ſometimes in Pleuriſies and *Pleuro-pneumonies*, when the Attack is with extreme Violence.

About four Years ſince a ſtrong plethoric Gentleman, about forty, was ſeized with a Fever and a violent Pain of his Side: He was immediately bled to ſixteen or eighteen Ounces: —This abated the Pain.—He got up, ſat by the Fire in a ſmoaky Chamber, drank near a Quart of cold Cyder, fell into a vaſt Rigor, ſucceeded by a high Fever, exceſſive Pain of his Side and Breaſt, great Difficulty of breathing, Delirium, and the moſt inceſſant terrible Cough I ever heard, which pumped up great Quantities of freſh frothy Blood.— I was obliged to bleed him three Times in twenty-four Hours, and to give him *ſeven Grains of ſolid Laudanum, beſides two or three Ounces of Diacodium*, in that ſhort Space of Time;— and this, and this only (for he would take no other Medicine) happily recovered him.— This indeed is a very extraordinary Inſtance:—But the Me-

thod,

thod, which is above recommended, I have in a Multitude of Cases experienced to be very safe and very effectual; infinitely more so, I think, than the *Sanguis hirci*, *Priapus tauri*, and the other Whimsies which *Helmont* so greatly extolls in appeasing the *Archæus*, and quieting the *Pleura furens* *; notwithstanding he is so very arch and severe on the Sons of *Galen* and the *Schools*, for attempting to cure Pleurisies by Bleeding.

In several epidemic Pleurisies, I have known easy Sweating, especially after the third or fourth Day, of very great Advantage; and, with this View, have often added Camphire to the Nitre, *&c.* which, joined with small Doses of *Elixir paregoricum* out of thin warm Whey, or Ptisan, seldom or never fails of answering the Intention.—In chilly wet Seasons, and Persons formerly subject to catarrhal, or cold rheumatic Disorders, this is a very proper Method, when a due Quantity of Blood hath been previously drawn off: In such Cases also gentle Purging is useful.—It is certain, from the best Observations, that in some Constitutions of the Air Patients, under pleuritic Diseases, will not bear the Loss of much Blood, particularly in continued wet foggy Weather: In general we find they sustain the Loss with much better Ef-

* *Vid.* Helmont. *Pleura furens.*

fect,

fect, and less Inconveniency, in a cold dry Spring than in a wet Summer, or a rainy Autumn. Nay there are some Pleurisies, at least vulgarly so called, that will admit of little or no Bleeding, in which the Pain of the Side seems a mere Symptom, not the Disease; as the Pains and Soreness preceding, or attending putrid malignant Fevers, Small-pox, *&c.* are not properly rheumatic, but purely symptomatical.—Such Pains then arise from Acrimony, not Inflammation, and are to be cured by Diluents, Diaphoretics, Eccoprotics, Blistering, *&c.* not by Bleeding, which is forbidden by the Ancients where *Bile* (by which they meant Acrimony) is greatly predominant.

It was an Observation of *Asclepiades* *, that the People of *Rome* and *Athens* did not bear Bleeding in Pleurisies and Peripneumonies as well as those about the *Hellespont*; the former lying to the South, and in a much more warm and moist Air than the latter, who were much exposed to cold dry northerly and easterly Winds: *Hollerius* makes the same Observation with Respect to the People of *Paris*, who lie pretty cold, and the Inhabitants of the southern Parts of *France*, who are more to the South and much warmer †.—Indeed, within a much

* *Vid. Cæl. Aurelian. Lib.* II. *Cap.* xxii. *de Morbis acutis & chronicis, Amst.* 1722. 4*to.*

† *Holler. in Aphorism.* 2. *Hippocr. Sect.* i.

narrower Compass, I have once and again taken Notice, that an epidemic Disorder, which in low warm Places near the Sea proved only a slight catarrhal Fever, and scarce required any Manner of Bleeding, hath, in the neighbouring cold and high Exposures, been attended with severe pleuro-peripneumonic Symptoms, and demanded no small Evacuation of Blood. —Without all Doubt, the very Constitution of the Solids and Fluids differs considerably, according to the different Situation of the Inhabitants.—Upon the whole then let me add this *Corollary*, that in Practice we not only ought to consider the peculiar Nature of the Epidemic, but also of the Season, and the Constitution of the Patients.

APPENDIX

APPENDIX.

A Method for preſerving the Health of Seamen in long Cruiſes and Voyages.

IT is well known what vaſt Numbers of Sailors we have loſt within theſe few Years, by terrible ſcorbutic Diſorders, owing chiefly to bad Proviſions, bad Water, bad Beer, *&c.* the unavoidable Conſequence of long Cruiſes and Voyages: For the Proviſions will naturally decay, the beſt Beef and Pork corrupt, the Water ſpoil, and the Beer (at leaſt ſuch as the Navy is ſupplied with) will not keep good very long. Of Courſe, the long and conſtant Uſe of ſuch Proviſions muſt by Degrees taint the Juices of the Body, produce great Acrimony in the Blood, and diſpoſe it daily more and more to a State of Putrefaction. Theſe Effects will be conſiderably augmented by living continually in a moiſt, ſalt Atmoſphere, and breathing the foul, polluted Air between Decks.

Conſtant Experience ſhews this to be the Caſe. I have known more than a thouſand Men put aſhore ſick out of one ſingle Squadron, after a three Months Cruiſe, moſt of them highly ſcorbutic; beſides many that died in the Voyage. The Fleet returns to its Port; freſh Air, wholeſome Liquor, freſh Proviſions, eſpecially proper Fruits and Herbage, ſoon purify the Blood and Juices of the Sick, and reſtore their Health. The freſh Air, Proviſions, Fruits, and Garden-ſtuff, which the *Engliſh* and *Dutch* meet with at *St. Helena*, and the *Cape of Good Hope*, are of the higheſt Advantage to them in their *Eaſt India* Voyages; without which they always become extreamly ſickly.

Phyſicians well know, that the moſt effectual Method of correcting an alcaleſcent Acrimony of the Blood, and of preventing the further Advances of Putrefaction in the Humors, is by vegetable and mineral Acids; the former of which are much the ſafeſt, and may be given in Draughts, the others only by Drops.

That the State of the Blood, in the common Sea-ſcurvy, is of this Nature, appears from the ſtinking Breath of the Sick, their rotten corroded Gums, high-coloured fœtid Urine, fordid Ulcers, black, blue, and brown Spots, and Eruptions on the Skin, frequent feveriſh Heats, foul Tongues, bilious and bloody Dyſenteries,

ſenteries, which more or leſs always attend it. Now it is alſo well known, that a vegetable acceſcent Diet and Regimen, freſh Air, freſh Proviſions, ſubacid and vinous Drinks, are its certain and ſpeedy Cure, when not very far advanced. Apples, Oranges, and Lemons, alone, have been often known to do ſurpriſing Things in the Cure of very deplorable ſcorbutic Caſes, that aroſe from bad Proviſions, bad Water, *&c.* in long Voyages.

But what will cure will prevent. If therefore ſuch a Diet and Regimen can be uſed at Sea, it will prove a Kind of a continual Antidote to the rank putreſcent Qualities of the common Ships Proviſion, and correct, at leaſt very much leſſen, the ill Effects. And it is eventually found, that the Officers, who carry Wine, Cyder, Lemons, freſh Proviſions, *&c.* are infinitely leſs affected with the Scurvy, than the poor common Sailors, who are not ſo provided.

Is it practicable then to introduce ſuch a general Regimen into the Navy? I think it is; and, from Reaſon and Experience, I recommend the following Method.

Let all Ships, that are to proceed on a long Cruiſe or Voyage, be ſupplied with a ſufficient Quantity of ſound, generous Cyder; the rougher, provided it is perfectly ſound, the better. If Apples are found of ſuch vaſt Ser-

vice in the Scurvy, ſurely the Juice of them, when become a vinous Liquor, cannot but be very ſalutary; and ſeems exceedingly well adapted, as a common Drink, to correct by its Acidity the alcaleſcent putrefying Quality of bad, corrupt Proviſions. This Cyder ſhould be at leaſt three Months old before it is ſerved in, and quite fine. If it be too new, and foul, it is apt to give ſevere Colics: It ſhould be racked off once at leaſt from its groſs Ley into good and ſweet Veſſels, which will contribute to its becoming fine, and prevent it from growing ropy, in which State it is good for nothing. But if ſome of it ſhould turn to Vinegar, which may frequently happen, it will ſtill be very ſerviceable; but it is found, when well managed, to keep good and ſound even to the *Indies*.

Every Sailor ſhould have at leaſt a Pint of Cyder a Day, beſides Beer and Water. And I would adviſe alſo a frequent and free Uſe of Vinegar in the Seamen's Diet; eſpecially when the Proviſions begin to grow rancid. Beſides this, the Decks, *&c.* ſhould be frequently waſhed, or ſprinkled with Vinegar; after having drawn the groſs and foul Air out of the Ship by Mr. *Sutton*'s Contrivance, or by Dr. *Hales*'s Ventilators; which ſhould be done once at leaſt every Day.

In autumnal Cruiſes a Quantity of Apples might be alſo carried, which, when well choſen and well put up in dry tight Caſks, will keep very good for two or three Months. Even Lemons and Oranges wrapt in Flannel (or ſomething that will imbibe their exhaling Moiſture) kept in cloſe dry Veſſels, and pretty cool, may be preſerved a long while alſo. If this is not ſo feaſible, a Mixture of Lemon Juice and Rum (Shrub as they call it) may be carried in any Quantity; as it will keep a long Time, and would prove infinitely more wholeſome than the naſty firey poiſonous Spirits, which are dealt about ſo largely in the Navy and elſewhere. By the bye, nothing would more effectually correct the pernicious Qualities of theſe Spirits than Lemon Juice.

In the Caſe of ſtinking Water, Juice of Lemon, Elixir of Vitriol, or Vinegar, ſhould be always mixed with it, which will render it much leſs unwholſome: The *Roman* Soldiers drank *Poſca* (*viz.* Water and Vinegar) for their common Drink, and found it very healthy and uſeful.

Elixir of Vitriol or Vinegar are already allowed to the Navy in large Quantities, and have been found greatly ſerviceable. And there was lately an Order iſſued for ſupplying the Ships of War with Cyder alſo, which I

am morally certain will be of the higheſt Advantage, if properly and honeſtly managed. Indeed it hath already been actually found ſo in ſome few Men of War, and other Ships, where it hath been tried, even though in ſmall Quantities. Let me add, that the Prize Wines, which are commonly low and thin, and very frequently ſpoil by keeping, might be diſtributed amongſt the Sailors (eſpecially in Want of Cyder) to very good Purpoſe.

This indeed may be deemed a very expenſive Project; but, where the Lives of ſo many brave and uſeful People are in the Caſe, I think the Coſt ſhould by no Means come into Competition with the Advantage that may be received from it. The *Romans* conſtantly carried with them Vinegar and Wine in their Fleets and Armies, and the common Soldier and Sailor daily partook of both: Nay, they were at many other conſiderable Expences to preſerve the Health of their Armies, *&c.* Now, if that glorious prudent People thought the Life of a *Roman* Soldier ſo valuable, and were at ſuch Expence to preſerve it; why ſhould not we have as much Regard to that of a *Britiſh* Sailor, who is altogether as brave and as uſeful to the Commonwealth?

I cannot conclude without taking Notice, that the uſual Methods of impreſſing Seamen,

on

on their Return from long and tedious Voyages, void of Neceſſaries, chagrined at not ſeeing their Friends and Families, and moſt commonly in a bad State of Health, and not allowed Time and Opportunity to recover it, hath been the Bane of thouſands: And I could wiſh, for the Honour of the Nation, a Method of manning our Fleet could be found out more conſiſtent with common Humanity and *Britiſh* Liberty.

Plymouth, Sept. 30, 1747.

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